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## MESSAGE OF THE MAYOR

TRANSMITTING

### REPORT OF THE COMMISSION TO INVESTIGATE TENEMENT-HOUSE CONDITIONS.

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MAYOR'S OFFICE,  
BOSTON, MASS., May 19, 1904.

*To the City Council:* —

I have the honor herewith to transmit the report of the Commission appointed by me on April 15, 1903, to investigate tenement-house conditions in Boston, and to make such recommendations for the improvement thereof as in their judgment might be wise and practicable. The public-spirited gentlemen who addressed themselves to this inquiry have performed their duties in the most conscientious manner, and are entitled to the thanks of the community.

I suggest that the report, with the accompanying appendices, be printed as a public document.

Respectfully,

PATRICK A. COLLINS,

*Mayor.*

MAJORITY REPORT.

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BOSTON, May 18, 1904.

HON. PATRICK A. COLLINS,

*Mayor of the City of Boston:*

SIR,—In compliance with your request of April 15, 1903, we have investigated tenement-house conditions in Boston, and beg leave to submit the following report:

The problem of the tenement house in the large city has been receiving increased attention during recent years, because it is generally recognized that many of the physical and moral evils incident to city life have their roots in bad housing conditions. While cities differ from each other in the menace which this problem offers, it would be unsafe for any city to presume to be free from it. To say that Boston conditions are not as bad as those in other cities does not for a moment remedy the evils which can be found here as in all cities. Mr. Robert W. DeForest, the recent tenement-house commissioner of New York City, has said that "the impressive lesson which New York has to teach other cities more fortunately situated than itself is to begin tenement regulation in time, and thus prevent any repetition of the terrible evils which confront New York, and from which she can not now altogether escape. There is no difficulty and no hardship in preventing unsanitary tenements from being built. There is every difficulty, and in the minds of some people there is much hardship, in changing them, after they have once been wrongly built."

Your Commission has found upon investigation that, notwithstanding the efficient work of the Health Department, there are many conditions in existing tenement houses which need further remedy. An examination of more than five thousand reports of separate tenement houses made by the Health Department inspectors during the past three years reveals better than any independent investigation your Commission could have made the conditions prevailing in Boston tenement houses when these reports were made. Such portions of the reports as are most significant have been transferred by the Statistics Department to separate cards, and these cards have been arranged by wards and carefully tabulated. The results of this work are given in Appendix A.

With reference to the construction of new tenement houses, your Commission finds that the present laws with regard to fireproof construction make the building, within the fire limits, of tenement houses in which low rents can be asked quite impracticable. Such construction has largely ceased. The statistics of building in Boston during 1903 show that only one hundred and eight houses for three or more families were constructed. Of these eighty-eight were for three families alone, and are not at present classed as tenement houses. Sixteen were for three families above a store, one for four families above a store, one for five families without a store, one for six families above a store, and one, a costly apartment house, for twenty-three families. In 1903, therefore, only nineteen tenement houses were constructed, affording apartments at moderate rentals. The large increase in the number of three-family houses outside the fire limits indicates the lack of needed brick buildings within those limits. The conclusion that the building of good, low-priced tenement houses needs to be encouraged would seem to be justified.

The Commission recognizes the justice of the complaint of many property owners of the South and West Ends that present laws make it practically impossible for them to reconstruct dwelling houses into four-story apartment houses without incurring a burden of expense greater than the possible income will warrant. As a result most of these houses, no longer occupied as formerly by a well-to-do class of single families, have become boarding and lodging houses, and there has been a general depreciation in their value. It would seem both safe and wise to provide for the alteration of such houses into tenement houses of second class construction by relaxing the requirements that they be "plastered on incombustible materials throughout," and removing the limitation of the number of families which may occupy each house. If the stairways are made fireproof and the rooms be properly lighted and ventilated, if also there be sufficient open area on the lot each house occupies, there will be no increase of danger in the reconstruction proposed. The Commission would approve the extension of the fire limits to include all the thickly-populated sections of the city, and at the same time would recommend such changes in the building laws as to make it possible to build within those limits adequate tenement houses not over fifty feet in height in which low rentals can be charged. This would be to the advantage of many tenants who need to live nearer to their work than is possible now, and would also aid landlords in improving

property, which, at the present time, is furnishing no adequate return.

In Appendix *B* are given tables prepared by the Statistics Department showing the facts concerning the fires occurring during the year 1902, in both tenements and dwelling houses. It will be noticed that by far the larger portion of the fires were caused by carelessness, and that the structural losses were comparatively small.

In this connection attention is called to the frequent evasion of the laws with regard to the alteration of dwelling houses. The present law defines a tenement house as "a building which, or any portion of which, is occupied, or intended to be occupied, as a dwelling by more than three families living independently of one another and doing their cooking upon the premises, or by more than two families above the first story so living and cooking." There are many tenement houses in the city to-day under this definition which are only dwelling houses in fact. The owners secure permits for the construction of dwelling houses, or the alteration of old buildings as dwelling houses, and when the work is completed proceed to crowd in four or more families. Although in the course of time the health inspectors discover the situation, it is too late to change the building. The result is overcrowding, improper provision of light and ventilation, and a lack of many conditions necessary to a sanitary house.

The present laws are especially inadequate in their failure to designate definitely proper requirements for open spaces on the lot on which a tenement house is built. The fact that many ells and sheds have been found within the last year or two to occupy an unreasonable amount of space in the back yards reveals this laxity of the laws, which now permit such buildings. Although the Health Department has effected most salutary changes in many sections of the city by causing the old wooden ells and sheds to be removed, they find it at present impossible to order down the new brick ells which are occasionally being constructed to the extreme rear of the lot.

The light which has been thrown by medical science upon the causes and prevention of tuberculosis has made it clear that hitherto not enough attention has been paid in tenement-house construction to yard spaces and courts. While in the City of Boston extreme protection against fire has been insured by the laws, there has not been enough attention paid to light and air. Although the statistics of tuberculosis in this city have not been collected by districts for a

sufficiently long period to furnish an impressive statistical argument, it is nevertheless true that tuberculosis thrives upon overcrowded housing conditions, and that its chief remedy is a life in the open air, even in the cold weather of winter. Tables are given in Appendix C, which show the proportion of deaths from pneumonia and tuberculosis occurring in tenement houses during a single year.

Five members of the Commission, with the Secretary and Dr. E. M. Hartwell, have visited New York and made a careful examination of tenement-house conditions in that city, including the improved houses constructed under the new Tenement House Act. Visits were made to Jersey City and Hoboken under the leadership of members of the New Jersey Tenement House Commission. The smaller houses in Brooklyn were contrasted with the large tenement houses of Manhattan. This study of New York conditions under the operation of the recent Tenement House Act of New York State has led a majority of the Commission to believe that a complete Tenement House Act, embracing within itself both such details of construction as are of peculiar importance to this class of buildings and all proper regulations for the maintenance of such houses, would be, if rightly drawn, a great advantage both to landlords and tenants in the City of Boston. At the present time the laws governing the construction and maintenance of tenement houses in Boston are scattered in various acts of the Legislature, and are not easily accessible to those unfamiliar with the statutes. Your Commission has, therefore, drawn up "An Act Relative to the Construction and Maintenance of Tenement Houses in the City of Boston." A careful endeavor has been made to codify in this act all existing provisions of law which appeared to the Commission to be of permanent value, and to make such changes or additions as seemed to be in the interest of the future. The form of the act is based on the New York Act, and many of the sections of that act have been incorporated, representing, as they do, the best judgment of a large commission of able men appointed in 1900 by Governor Roosevelt. The act recommended by this New York commission, and adopted by the Legislature, has been in operation since January 1, 1902. It has withstood the severest criticism, both from its enemies and its friends. Some slight amendments have been made to it, and it now represents the most carefully considered judgment on the tenement-house problem as it exists in New York City which has thus far been offered to the public.

The Act offered by the Commission is not considered final in its form or contents. It is simply a careful attempt to gather together the essential requirements for the construction and maintenance of adequate and wholesome tenement houses in the City of Boston. Before it is introduced into the Legislature for enactment it should have careful legal revision. The Commission recognizes that it is quite possible that some of its provisions could be better enacted either as separate laws or as amendments to existing laws. The Act is offered as a whole in order to present the tenement-house problem and its suggested solution as concisely as possible.

It is fair to state that some members of the Commission are of the opinion that the draft of law herewith submitted should not, in the first instance, at least, be enacted into law by the Legislature, but should serve as the basis of regulations, having the force of law, to be framed by a commission, to whom should be given general power over the whole tenement-house question. This suggestion is made on the further belief that regulations having the force of law, but subject to change where the needed change has been demonstrated, will better subserve the purpose sought by this Commission.

It has been claimed by some that the hardships involved in the enforcement of new sanitary requirements in old houses, originally built according to the laws in force at the time, made such enforcement unjust and even unconstitutional. This matter has been settled in New York, and the account of the case is most instructive. The new New York Tenement House Act required certain changes in the sanitary fittings in a tenement house, and a landlord was ordered to make the changes. She demurred on the ground that the state of her premises did not impair the public health, that the premises were built in accordance with law, and were maintained in good condition, and that the requirement of the law was unreasonable and unconstitutional in that it worked a confiscation and spoliation of her property. Suit was brought against her in the Municipal Court for failing to comply with the law. Every juror was an owner of a tenement house, and one was also a prominent builder. The jury brought in a verdict against the landlord. The case then went to the Supreme Court, and the decision of the jury in the lower court was sustained. The opinion written by Justice O'Brien takes the strongest ground in support of new sanitary legislation to supersede old requirements found insufficient to safeguard the public. It says: "The most drastic requirements may as a proper exercise of this (the police) power be sanctioned, with the limitation

merely that they are upon their face no more than reasonable in view of the evil sought to be overcome."

The "Real Estate Record and Guide" of New York City, originally opposed to the new laws, has recently expressed itself editorially as follows:

"The passage of the new tenement-house law in 1901, and the organization of the tenement-house department which followed, was the first serious attempt to provide a machinery, both legal and administrative, adequate to cope with the tenement-house evil in all its bearings. That machinery has now been in existence for about two years, and its value and effect are clearly discernible. Mr. DeForest claims that the legislation has, on the whole, been a success; that it has solved the tenement-house problem in New York, so far as it can be solved by law and departmental supervision. With this opinion the "Record and Guide" is disposed to agree. The builders, speculators, and property owners most interested in tenement-house property regarded the law in the beginning with the utmost suspicion, because they doubted whether the class of tenements required by the new law could be profitably erected, and they were only too well aware how disastrous would be the result of insisting on the erection of a kind of building which was too good for the pockets of the people who were to inhabit the rooms. These fears proved to be groundless. It took six months or more to readjust the speculative building of tenement houses to the new conditions, but thereafter it is probable that the erection of such accommodations proceeded about as fast under the new law as it would have proceeded under the old law. Builders and property owners have become reconciled to the higher standard. The former have found that new law tenements rent quickly, and can be built at a profit; the latter find they can make necessary changes in old tenements not only without loss but with an actual benefit to their pocket."

It is worthy of note that the example set by New York is being followed in many cities. Chicago has already adopted a city housing ordinance based on the New York Act. In Cleveland the Industrial Committee of the Chamber of Commerce has investigated housing conditions. In Cincinnati one of the leading architects of the city has been preparing a new code of laws adapting the New York laws to local conditions. The Legislature of the State of New Jersey has recently passed an Act, based on the report of a special commission, recommending new housing laws applicable to all the larger cities of the State. The last Pennsylvania Legislature passed a tenement-house law for cities of the

second class. Hartford has begun a movement for better housing laws, and in both Baltimore and Washington the first steps have been taken to the same end. In Philadelphia an exhaustive investigation of local housing conditions has been made.

Boston has not been unmindful of the housing problem in the past years. Following the great fire of 1872 a stringent building code was established, which was remodelled in 1885 and again in 1892 and 1894. This code includes many special provisions for tenement houses. In 1885 was passed an Act "in relation to the preservation of health in buildings in the City of Boston." The greater part of this Act is still in force. Various amendments to these codes have been made, and a considerable number of separate laws referring to tenement houses have been passed. There have also been several important investigations into tenement-house conditions made during recent years. In 1888 the first of these was conducted by Professor Dwight Porter of the Massachusetts Institute of Technology. Three years later the State Bureau of Statistics of Labor made an exhaustive report under the direction of Mr. Horace G. Wadlin. In 1895 a special committee of the Common Council investigated conditions in the North End and reported that the tenement houses there were a "serious menace to public health." The Twentieth Century Club published in 1898 a pamphlet describing a large number of typical tenement houses with plans illustrating the area of lot covered. In the following year the State Bureau of Statistics of Labor issued another report, making comparisons with the first report in 1891, on tenement-house conditions in special districts. During the past three years the Health Department has collected the special reports on each tenement house in the city which have already been quoted above.

These various investigations and reports all show the existence of an important problem. It has been the purpose of the Commission to aid in the solution of this problem by codifying and strengthening the tenement-house laws. The act herewith presented attempts to state clearly and definitely such requirements as have been found to be of unquestionable value to both the owners and the occupants of tenement houses. The idea that such legislation is necessarily a hardship either to the landlord or the tenant is clearly disproved by the experience in New York. Well-constructed, well-lighted, and well-ventilated houses are a better investment for capitalists, and are better homes for the people than houses which disregard sanitary provisions, and are allowed to deteriorate from neglect.

The object of incorporating details of construction in the same act with details of maintenance is in order that the whole tenement-house requirement, with the exception of such technical building details as are common to all buildings, may be easily accessible. It is the opinion of the Commission that instead of six or seven thousand tenement houses there will be in Boston in the near future twice or three times that number. Notwithstanding any possible growth of the suburbs, there are sure to be increasing numbers of people who will find it to their advantage to live within a comparatively short distance of their work. While it is perfectly possible to prevent improper construction in the future, it surely will be impossible to so distribute the population from the present congested centres of the city as to make tenement houses no longer necessary.

In view of the revision of the Building Laws of Boston, which the Commission understands will be made in the near future, no attempt has been made to define with precision those technical building requirements and details of protection from fire which would more naturally fall under the general regulations for all buildings. Such matters as are covered in the act presented seem to the Commission to be of especial importance to tenement houses, and therefore to demand a place in a tenement-house act.

With reference to the administration of this act, your Commission believes that there should be an intimate relation between the Health and Building Departments, both of which are necessarily responsible for the condition of tenement houses. It is important that the policy adopted in each department should be harmonious with that of the other. All details of construction are naturally in charge of the Building Department. The care of a tenement house after its completion falls to the Health Department. There should be a mutual understanding between the two departments in regard to the interpretation of the laws governing tenement houses in order that neither tenant nor landlord may suffer from any disagreement.

In view of the great increase in the number of tenement houses which will of necessity occur if the provisions of this act are adopted, and which may also be expected from the natural growth of the city, the Commission considers it quite possible that the time will arise in the near future when a separate Tenement House Department may be necessary for the proper administration of tenement-house laws. Such a department is not recommended at the present time. With a suitable increase in the staff of inspectors in both

Building and Health Departments there seems to be no reason why this act cannot be enforced adequately in all its provisions. We would recommend, however, that provision be made in the Health Department for a more complete system of records of the separate tenement houses of the city, and a more constant supervision of all such houses. If some one member of the Board of Health were especially appointed to supervise tenement-house administration there would undoubtedly be a gain in the efficiency with which the tenement-house problems are treated.

Especial attention is called by the Commission, in the Act herewith presented, to certain provisions which are important modifications or additions to existing laws:

1. *Definition of a Tenement House.*---In view of the fact that the problems presented by the common rights and privileges of three families living together in one house, although in separate apartments, are the same problems presented in houses where more than three families are so living, your Commission is led to the inclusion of all three-family houses under the definition of a tenement house. With reference to this change the Health Department, in its report for 1900, expressed its opinion as follows: "Under the law, a tenement house in Massachusetts is one occupied by four or more families, while in New York it is one occupied by three families, which was the law in Massachusetts until the statute was amended in 1894.\* This change was, in the opinion of the Board of Health, a step in the wrong direction, as a great majority of the three-family houses require supervision fully as much as do four-family houses, and are equally in need of semi-annual inspection, and of the benefits of the law compelling whitewashing." After extended investigation your Commission unanimously concurs in this opinion. Even though families do not consist of more than one person, the problems referred to are sure to arise. The only objection presented to the Commission against this definition of a tenement house was based on the high cost of building small tenement houses under present laws. It is believed that the provisions of this act materially lessen that cost, and that, therefore, this objection is largely removed.

2. *Cellars and Basements.*—It has seemed desirable to establish a distinction between cellars and basements, and the definitions in Section 1 of the act are drawn in order that this distinction may be perfectly clear. Your Commission cannot see any good reason why cellars, as defined in this

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\* This date should be 1892, as the Acts of 1894 did not change the definition of a tenement house established in 1892.

act, should be occupied as apartments. Even under the best of sanitary conditions any story of a house more than three-fifths below the average grade of the street is not a fit place for human habitation. Since, however, it may be a hardship to enforce the prohibition against the occupancy of cellars too rapidly, a discretionary power has been left to the Board of Health with reference to the matter.

3. *Thickness of Walls.*—The Commission presents Section 5, relaxing the present requirements for the thickness of walls in tenement houses, in the interest of such persons as may desire to build small tenement houses. It is believed that the provisions recommended involve no danger, and would aid materially in the profitable reconstruction of many existing dwelling houses into tenement houses, producing a fair return on their cost.

4. *Protection from Fire.*—While the Commission recommends some relaxation of the present laws with reference to fireproof construction, great care has been taken to define clearly the requirements for stairs and public halls which must be of sufficient size and properly lighted and enclosed in fireproof partitions. If the requirements suggested are carefully observed the risk from fire does not seem to the Commission to be materially greater than under present requirements.

5. *Percentage of Lot Occupied.*—The present law, making it possible to measure to the middle of the street in estimating the percentage of a lot which may be built upon, defeats the whole purpose of the provision restricting this percentage. The definite provisions of the New York Act, fixing the exact percentage, measured on the lot itself, are more satisfactory. It seems to the Commission, however, that the desired end is reached by specific requirements with reference to the sizes of courts and yards and the proper lighting and ventilation of rooms. When these requirements are all met the exact percentage of the lot actually occupied by a tenement house becomes a matter of unimportance.

6. *Yards and Courts.*—While it may seem at first glance to be unnecessary to define with such definiteness the minimum sizes of yards and courts, the Commission finds abundant reason to believe that these provisions will be of inestimable value to the occupants of all tenement houses hereafter constructed. Nothing so impresses the visitor to New York, on examination of tenement house conditions, as the striking contrast between the large open areas on the lots of new-law tenement houses and the contracted courts and shafts of the old houses, many of which are not more than twenty-five inches

in width. The gain in light and ventilation throughout the new buildings is most marked. Although there are no dumb-bell tenement houses in Boston, with the narrow air-shafts between, there are many yards which are too small, and many separate houses with inadequate light and ventilation. Since yard and court areas are so easily encroached upon by speculative builders, unless prevented by rigid laws, it has seemed to the Commission desirable to state the requirements with the utmost detail.

7. *Dark Rooms.*—One of the unfortunate possibilities under existing laws is the building of new buildings containing rooms with insufficient light. The Health Department has called attention to this matter in more than one of its reports. Careful provision, therefore, has been made so that every living room, even in existing houses, shall have ample access to the outside air made imperative.

8. *Dark Halls.*—Careful attention has been paid to the lighting of halls. Dark halls are undesirable and dangerous from every point of view. Tenants have a right to a well-lighted passageway from the street to the apartments which they occupy.

9. *Water-closets.*—The regulations with reference to water-closets have been carefully considered, since this has been one of the chief sources of danger to the health of tenement house occupants. The present provisions are not adequate. Not only should there be a sufficient number of such closets, but they should be maintained with absolute cleanliness and protected from the winter's cold.

10. *Cleanliness of Yards.*—A more stringent requirement is suggested with reference to the responsibility for the uncleanliness of tenement-house yards. Although the person placing filth or refuse of any sort in the yards is violating the law, yet the practical difficulties in the way of locating the responsibility for such violation have been so great that in many instances yards have remained in a filthy condition for indefinite periods. In the opinion of the Commission the owner of a tenement house should be held responsible for the furnishing of proper receptacles for garbage, ashes, and other refuse, and should be under compulsion to maintain the tenement-house yard in a cleanly condition. If any owner wishes the assistance of the sanitary police it is the duty of the Health Department to furnish such assistance in compelling the tenants to do their part in the proper maintenance of the premises.

The Commission finds that the frequent collection of garbage and refuse, especially in winter, is made excessively

difficult by certain conditions of long standing. One of these is the almost universal lack of suitable receptacles for refuse and the proper separation of garbage, ashes, and waste matter each from the other. The city ordinances requiring such receptacles and separation are not at the present time properly enforced. Another difficulty lies in the fact that householders and tenants not only do not put their refuse out on the sidewalk as in other cities; they do not even put it in the rear alley, or yard when there is no alley. And a still greater difficulty is to be found in the neglected condition of most of the private alleys which run through the centre of the blocks. Notwithstanding these difficulties it is the belief of the Commission that a more rigid enforcement of existing ordinances is perfectly possible, and that a more frequent service than once a week should be provided for every house in the city.

11. *Private Alleys.*—The condition of the privately-owned alleys and passageways in Boston has long been a source of complaint. The City Engineer has recently completed an investigation which reveals the following facts :

Public alleys in Boston . . . . .	49
Private streets and alleys . . . . .	1,401
Length of all alleys in miles . . . . .	32.8
Area in square yards . . . . .	244,252

#### Condition of pavements in private alleys :

Good . . . . .	218
Fair . . . . .	271
Poor . . . . .	912

#### Sanitary condition of private alleys :

Clean . . . . .	474
Fairly clean . . . . .	452
Dirty . . . . .	401
Filthy . . . . .	74

#### Private alleys below street grade :

One to five steps . . . . .	189
Six to ten steps . . . . .	131
Eleven to twenty steps . . . . .	55
More than twenty steps . . . . .	3

Estimated cost of paving private alleys, \$1,151,428.

The immediate problem before the city is to get these alleys clean. Tenants think nothing of casting all manner of refuse into them. Even when the abutters try to keep them clean the public often uses them as a dump. No one is especially commissioned to watch their condition. In

winter the situation is at its worst since paths are seldom or never shovelled through them to aid the garbage collectors. Were the alleys of even width and on the grade of the street these difficulties might be overcome. But many of them, as the figures given above make evident, are six feet or more below the street level and reached by flights of steps which are often broken down. And in the course of years the width of the alleys has been so encroached upon that in the length of a block it may vary from three to six feet. Very few are wide enough for an ash cart to be driven through them.

At the present time it is difficult to locate responsibility. Although the Board of Health, under the extraordinary powers granted to it by statute, can compel the abutters to clean an alley, the process consumes so much time that the intent of the law is clearly defeated. It is the judgment of the Commission that the only practical solution is for the city to assume the burden of cleaning the private alleys in the same manner as it cleans the public streets. The Commission also believes that the Health Department should order the paving of these alleys with all possible urgency, since it is difficult to clean an unpaved alley satisfactorily. In future it will undoubtedly be the part of wisdom for the city to expend a stated sum each year in making private alleys public.

12. *Registry of Owners' Names.*—The present law requires that the name of every tenement-house owner or his agent shall be posted in the front entry of the house. This is a law very difficult to enforce, because it does not require an adequate method of posting. Often the names are placed on cards, and are removed within a few hours after being posted. The Commission recommends that these names be placed on metal plates of adequate size. It also would require, in addition, that the names of all owners and their agents be registered at the Health Department.

13. *Inspection of Tenement Houses.*—Even with the existing number of tenement houses, a more frequent inspection would be desirable. With the large increase in the number of tenement houses to be inspected, if three-family houses are to be included, it becomes apparent that the staff of the inspectors should be largely increased. In the opinion of this Commission the Health Department ought to be freed from the action of the Veterans' Preference Law in the selection of inspectors. The arduous work of inspection makes it important that men under forty years of age should usually be appointed. Until such relief can be provided

the Commission recommends that the force of inspectors be increased by the addition of women, whose efficiency in this work has been amply demonstrated in other cities.

14. *Sanitary Police.*—The Commission recommends a considerable increase in the number of policemen detailed for the service of the Board of Health. Such policemen are needed throughout the city to enforce the regulations with reference to the cleanliness of yards and alleys, as well as the many other requirements of the Board of Health.

15. *Overcrowding.*—In the New York Tenement House Act it is provided that 400 cubic feet of air should be afforded for each adult occupant, and 200 for each child under 12 years of age in all apartments. There is no statute law of this nature governing Boston, but the Health Department attempts to require 300 cubic feet of air for each adult. As the matter is entirely within the authority of the Health Department, and as it is extremely difficult to frame a general law which properly defines overcrowding and states its remedy, the Commission has not included the subject in the Act proposed, but prefers to leave all regulations with the Health Department.

The proposition for an “Advisory Board for Tenement Houses,” to control the planning of all new tenement houses, as set forth in the special report offered by Mr. W. D. Austin, is, in its general features, looked upon with favor by the other members of the Commission. There is no doubt that such a board would be of great service to all architects and builders of tenement houses, and would enable house owners to secure the most available apartments consistent with proper sanitary provisions. The majority of the Commission would hold, however, that even though such a board should be established, it would be on the whole advisable to enact in statute law the minimum requirements for the proper lighting and ventilation of tenement houses and for the best sanitary conditions. With such an act as the one proposed to guide them, the board would have ample opportunity for service in the many special cases which would inevitably arise in connection with the planning of houses on peculiarly shaped lots.

The various plans of possible tenement houses appended to this report have been drawn by Mr. W. D. Austin, in accordance with the provisions of the act offered by the Commission. They illustrate the possibility of a far better type of tenement house than is common in Boston at the present time.

The Commission wishes to express its appreciation of the

valuable services rendered by Dr. E. M. Hartwell, chief of the Statistics Department. Dr. Hartwell was invited to sit with the commission, and has taken part in its counsels and investigations.

To all those who have given so cordially the benefit of their experience in various phases of the housing problem, the Commission gladly expresses its sincere thanks. Especial mention should be made of the kindness of Mr. Robert W. DeForest, the recent Tenement House Commissioner of New York City, and those associated with him, who did everything in their power to make the visit of the Commission to New York City as profitable as possible, and who have very cordially given any assistance asked of them.

Respectfully submitted,

CHARLES S. HAMLIN.  
EDWIN D. MEAD.  
WILLIAM D. AUSTIN.  
CHARLES LOGUE.  
JAMES T. CARROLL.  
NATHAN WAXMAN.

EDWARD H. CHANDLER,

*Secretary.*

AN ACT RELATIVE TO THE CONSTRUCTION AND MAINTENANCE OF TENEMENT HOUSES IN THE CITY OF BOSTON.

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

TITLE I.—DEFINITIONS.

SECTION 1. *Definitions.*—In this act certain words are defined for the purposes thereof as follows:

1. A tenement house is any house, or building, or portion thereof, occupied, or adapted to be occupied, as a dwelling by three or more families living independently of one another and doing their cooking upon the premises, or by two or more families above the first story so living and cooking. A family living in a tenement house may consist of one or more persons.

2. An apartment is a room, or suite of two or more rooms, occupied, or adapted to be occupied, as a residence for one family.

3. A yard is an open unoccupied space on the same lot with a tenement house between the rear line of the house and the rear line of the lot.

4. A court is an open unoccupied space other than a yard on the same lot with a tenement house. An inner court is a court not extending to the street or yard. An outer court is a court extending to the street or yard. An intake is a passageway connecting an inner court with the street or yard.

5. A shaft whether for air, light, elevator, dumb waiter, or any other purpose, is an enclosed space within a tenement house extending to the roof, and covered either by a skylight or by the roof. A vent shaft is a shaft used solely to ventilate or light a water-closet compartment or bath-room.

6. A public hall is a hall, corridor, or passageway not within an apartment.

7. A stair hall includes the stairs, stair landings, and those portions of the public hall through which it is necessary to pass in going from the entrance floor to the roof.

8. A basement is a story partly, but not more than two-

fifths, below the level of the mean or average grade of all the streets, or the mean or average grade of the natural ground adjoining the building: provided, that said grade of the ground is not below the grade of the street at the principal front.

9. A cellar is a story more than two-fifths below the level of the mean or average grade of all the streets, or the mean or average grade of the natural ground adjoining the building: provided, that said grade of the ground is not below the grade of the street at the principal front.

10. A story is that portion of the building between the top of any floor beams and the top of the floor beams next above.

11. A first-class building is a building of fireproof construction throughout. A second-class building is a building not of the first class the external and party walls of which are of brick, stone, iron, or other equally substantial and incombustible material. A third-class building is a building other than the first or second class.

12. The external wall is the outer wall or vertical enclosure of a building other than a party wall, and the frame of a bay window shall be considered as a part of the external wall. A party wall is any wall used, or built to be used, as a separation of two or more buildings on land of two or more owners. A partition wall is any interior wall in a building.

13. A fireproof tenement house is one constructed of non-inflammable material throughout, with floors of iron or steel beams filled in with terra cotta or other masonry arches, or concrete, and in which no woodwork or other inflammable material is used in any of the partitions, furrings, or ceilings. But this definition shall not be construed as prohibiting the use of wooden flooring on top of fireproof floors, or of wooden windows, and door frames, sashes, doors, standing finish, handrails for stairs, necessary sleepers bedded in concrete, and isolated furring blocks bedded in the plaster. Such buildings shall have no air space between the top of any floor arches or concrete and the floor boarding, and no air space behind any woodwork.

14. The height of a tenement house is the vertical distance of the highest point of the roof above the mean or average grade of the streets, or the mean or average grade of the natural ground adjoining the building, if the said grade of ground is not below the grade of the street at the principal front.

15. A corner lot is a lot situated on two public streets

meeting at an angle, or on a public street and an alley or passageway not less than twenty-five feet in width meeting at an angle.

16. Alteration means any change or addition.

17. Repairs means any renewal of any existing part of a building, or of its fixtures or appurtenances, which does not lessen the strength or increase the fire risk of the building.

18. The word "shall" is always mandatory in this act and not directory and denotes that the house shall be maintained in all respects according to the mandate as long as it continues to be a tenement house.

SECT. 2. *Buildings Converted or Altered.*—A building not erected for use as a tenement house, if hereafter converted or altered to such use, shall thereupon become subject to all provisions of this act affecting tenement houses hereafter erected.

SECT. 3. *Buildings in Process of Erection.*—A tenement house not now completed, but the excavation for which shall have been commenced in good faith on or before the first day of \_\_\_\_\_, shall be subject only to the provisions of this act affecting now existing tenement houses: provided, that the plans for said house were filed in the Building Department on or before the first day of \_\_\_\_\_, and were in accordance with the laws in force at the time of filing, and that the building is built in accordance with such laws.

SECT. 4. *Alterations and Damage in Occupancy.*—No tenement house shall at any time be altered so as to be in violation of any provision of this act. If any tenement house or any part thereof is occupied by more families than provided in this act, or is erected, altered or occupied contrary to law, such tenement house shall be deemed an unlawful structure, and shall be ordered vacated, and shall not again be occupied until it or its occupation, as the case may be, has been made to conform to the law.

## TITLE II.—CONSTRUCTION AND PROTECTION FROM FIRE.

SECTION 5. *Thickness of Walls.*—All tenement houses of second-class construction, hereafter erected, not over twenty-five feet in width, nor over thirty-five feet in height, or over fifty-five feet in depth, shall have their external and party walls not less than eight inches thick; all such houses not over twenty-five feet wide or forty-five feet high or fifty-five feet deep shall have their external and party walls twelve inches thick to the top of the second floor and eight inches

for the remaining height; all such houses not over thirty feet wide or forty-six feet high shall have external and party walls not less than twelve inches thick the entire height of the wall.

All tenement houses of first-class construction, hereafter erected, not over sixty feet in height shall have their external and party walls not less than twelve inches thick; all such houses over sixty feet in height shall have such walls sixteen inches thick to the top of the second floor and twelve inches for the remaining height.

SECT. 6. *Fireproof Tenements, when Required.*—Every building hereafter erected, enlarged, or converted to use as a tenement house more than four stories in height above the basement, and exceeding fifty feet in height, or covering more than five thousand superficial square feet of area, regardless of height, shall be a first class building.

SECT. 7. *Fire-Escapes.*—In all tenement houses hereafter erected there shall be provided one of the following alternative means of egress for escape from fire: either (1) an interior enclosed stairway as hereinafter described; or (2) an exterior iron fire-escape and stairs as hereinafter described; or (3) iron balconies connecting with adjoining houses.

1. Interior fire-escapes where used may consist of wooden circular stairs, occupying a space of a diameter not less than four feet six inches. Such stairs shall extend from the top floor to the level of the basement where they shall open into either a court or a yard. These stairs shall be separated in the basement from the basement by brick walls at least eight inches thick, and said stairs above the basement shall be enclosed with fireproof partitions clear to a vent skylight, and shall have on each floor, in a public hall accessible from each apartment, a fireproof self-closing door and fireproof frame; the door to open into the corridor, and to be so arranged that it cannot be opened from the stair side; such staircase to be provided with a ventilating skylight at least nine square feet area. The soffits of the stairs shall be plastered on metal lathing. No such interior fire-escape shall be permitted unless the main stairs are entirely shut off from the public halls, as hereinafter provided.

2. Exterior fire-escapes when used shall be arranged to be accessible from every apartment; shall be of iron, with iron grated floor, and capable of bearing a load of one hundred pounds per square foot. The stair treads shall be of iron, and the pitch of stairs shall not exceed sixty degrees.

Balconies shall be at least three feet four inches wide, and the stairs at least twenty inches. There shall be a landing at the foot of each flight, and at the level of the second floor

there shall be cantilever ladders. The rails on horizontal balconies and on the stairs shall be at least two feet ten inches high at all points.

3. Balconies connecting adjoining houses shall be arranged to be accessible from all apartments on each floor above the first floor; shall be not less than thirty inches wide and capable of sustaining a load of one hundred pounds per square foot. Railings shall be not less than two feet ten inches high, and shall be of iron.

SECT. 8. *Bulkheads and Scuttles.*—Every tenement house hereafter erected shall have in the roof a fireproof bulkhead with a fireproof door to the same, and shall have fireproof stairs with a guide or hand rail leading to the roof, except that in tenement houses hereafter erected, which do not exceed fifty feet in height, such bulkheads may be of wood covered with metal on the outside and plastered on metal lathing on the inside; provided, that the door shall be covered with metal on both sides.

Every existing tenement house shall have in the roof a bulkhead or scuttle. No scuttle shall be less in size than two feet by three feet, and all scuttles shall be covered on the outside with metal, and shall be provided with stairs or stationary ladders leading thereto and easily accessible to all tenants of the building, and kept free from encumbrance, and all scuttles and ladders shall be kept so as to be ready for use at all times. No scuttle shall be located in a closet or room, but all scuttles shall be located in the ceiling of the public hall on the top floor, and access through the scuttle to the roof must be direct and uninterrupted. When deemed necessary by the Building Commissioner scuttles shall be hinged so as to readily open. Every bulkhead hereafter constructed in a tenement house shall be constructed as provided for tenement houses hereafter erected, and shall have stairs with a guide or hand rail leading to the roof, and such stairs shall be kept free from encumbrance at all times. No scuttle and no bulkhead door shall at any time be locked with a key, but either may be fastened on the inside by movable bolts or hooks. All key-locks on scuttles and on bulkhead doors shall be removed. No stairs leading to the roof in any tenement house shall be removed and replaced with a ladder.

SECT. 9. *Stairs and Public Halls.*—Every tenement house hereafter erected shall have at least one flight of stairs extending from the entrance floor to the roof. Public halls therein shall each be at least three feet wide in the clear, and stairs shall be at least three feet wide between the wall and the stair rail.

Each flight of stairs shall have an entrance on the entrance floor from the street or street court, or from an inner court which connects directly with the street. All stairs shall be constructed with a rise of not more than eight inches, and with treads not less than nine inches wide and not less than three feet long in the clear. Where winders are used all treads at a point eighteen inches from the strings on the well side shall be at least ten inches wide.

In every tenement house all stairways shall be provided with proper balusters and railings and kept in good repair. No public hall or stairs in a tenement house shall be reduced in width so as to be less than the minimum width prescribed in this section.

SECT. 10. *Stair Halls, Construction of.*—In tenement houses hereafter erected which do not exceed fifty feet in height the stair halls shall either be constructed of iron beams and fireproof filling or shall be filled in between the floor beams with at least five inches of cement deafening. In such houses the stairs may be of wood, provided the soffits are covered with metal laths and plastered with two coats of mortar, or with good quality plaster-boards not less than one-half inch in thickness made of plaster and strong fibre, and all joints made true and well pointed, and provided such stairs are furnished with fire-stops.

SECT. 11. *Stair Halls, how Enclosed.*—In second-class tenement houses hereafter erected the stair halls shall be enclosed on all sides with brick walls from the basement to the first floor, and with brick walls or with partitions of angle-iron and fireproof blocks not less than four inches thick above the basement. The doors opening from such stair halls shall be fireproof and self-closing, and if provided with glass such glass shall be good quality wire glass.

In third-class tenement houses hereafter erected, not exceeding three stories in height, the stair halls may be enclosed with wooden stud partitions, provided such partitions are covered on both sides with metal laths or with good quality plasterboards not less than one-half inch in thickness, made of plaster and strong fibre and all joints made true and well-pointed, and provided that the space between the studs is filled in with brick to the height of the floor beams.

SECT. 12. *Entrance Halls.*—Every entrance hall in a tenement house hereafter erected shall be at least three feet six inches wide in the clear, from the entrance up to and including the stair enclosure, and beyond this point at least three feet wide in the clear, and shall comply with all the conditions of the preceding sections of this act as to the con-

struction of stair halls, except that in a fireproof tenement house hereafter erected it may be enclosed with terra cotta blocks not less than four inches thick and angle-iron construction, instead of brick walls. If such entrance hall is the only entrance to more than one flight of stairs, that portion of said hall between the entrance and the first flight of stairs shall be increased one-half in width in every part for each additional flight of stairs.

SECT. 13. *Cellar Ceilings.*—In all non-fireproof tenement houses hereafter erected the cellar and basement ceilings shall be lathed with metal laths and plastered.

SECT. 14. *Partitions, Construction of.*—In all non-fireproof tenement houses hereafter erected fore and aft stud partitions which rest directly over each other shall run through the wooden floor beams and rest upon the cap of the partition below, and shall have the studding filled in solid between the uprights to the depth of the floor beams with suitable incombustible materials.

SECT. 15. *Cellar Stairs.*—In non-fireproof tenement houses hereafter erected the stairs leading to the cellar may be located inside the building, provided they are entirely enclosed with brick walls, and are provided with fireproof self-closing doors at both the top and bottom.

In every fireproof tenement house hereafter erected the stairs leading to the cellar may be placed inside of said building: provided, that the portion of the cellar or other lowest story into which said stairs lead is entirely shut off by fireproof walls from those portions thereof which are used for the storage of fuel, or in which heating appliances, boilers, or machinery are located. All openings in such walls shall be provided with self-closing fireproof doors.

Any new stairs that may be hereafter constructed in any tenement house leading from the first story to the cellar or basement shall be entirely enclosed with brick walls, and be provided with fireproof self-closing doors at both the top and bottom.

SECT. 16. *Closet under First Story Stairs.*—In non-fireproof tenement houses hereafter erected no closet of any kind shall be constructed under any staircase leading from the cellar or basement or first story to the upper stories, but such space shall be left entirely open and kept clear and free from encumbrance.

SECT. 17. *Cellar Entrance.*—In every tenement house hereafter erected there shall be an entrance to the cellar or other lowest story from the outside of the said building.

SECT. 18. *Wooden Tenement Houses.*—Within the fire

limits no wooden tenement house shall hereafter be erected, and no wooden building not now used as a tenement house shall hereafter be altered or converted to such use. But outside of the fire limits, tenement houses not exceeding three stories in height above the basement, nor having more than eight rooms on a floor, may be erected of wood, but shall not provide accommodations for more than six families or be occupied by more than two families on any floor.

SECT. 19. *Alteration of Wooden Tenement Houses.*—No wooden tenement house shall be increased in height so as to exceed three stories above the basement, nor shall it be altered so as to be occupied by more than six families, or by more than two families on any floor.

SECT. 20. *Shafts.*—All shafts hereafter constructed in tenement houses shall be constructed fireproof throughout, with fireproof self-closing doors at all openings, at each story, except window openings in vent shafts; and, if they extend to the cellar, shall also be enclosed in the cellar with fireproof walls and fireproof self-closing doors at all openings. In no case shall any shaft be constructed of materials in which any inflammable material or substance enters into any of the component parts. But nothing in this section contained shall be so construed as to require such enclosures about elevators or dumb waiters in the well-hole of stairs where the stairs themselves are enclosed in brick or stone walls, and are entirely constructed of fireproof materials as hereinbefore provided.

SECT. 21. *Wooden Buildings on same Lot with a Tenement House.*—No wooden building of any kind whatsoever shall hereafter be placed or built upon the same lot with a tenement house within the fire limits. And, within the fire limits, no wooden tenement house, and no wooden structure or other building on the same lot with a tenement house shall hereafter be enlarged, extended or raised; except that a wooden extension not exceeding in total area seventy square feet may be added to an existing wooden tenement house, provided such extension is used solely for bath-rooms or water-closets. This section shall not be so construed as to prevent the construction of such receptacles as may be permitted by the Health Department.

SECT. 22. *Combustible Materials.*—No tenement house, nor any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping or handling of any combustible article except under such conditions as may be prescribed by the Fire Department. No tenement house, nor any part thereof, nor of the lot upon which it is situated,

shall be used as a place of storage, keeping or handling of any article dangerous or detrimental to life or health, nor for the storage, keeping or handling of feed, hay, straw, excelsior, cotton, paper stock, feathers or rags.

SECT. 23. *Bakeries and Fat Boiling.*—No bakery and no place of business in which fat is boiled shall be maintained in any tenement house which is not fireproof throughout, unless the ceiling and side walls of said bakery or of the said place where fat boiling is done are made safe by fireproof materials around the same, and there shall be no openings either by door or window, dumb-waiter shafts or otherwise, between said bakery or said place where fat is boiled in any tenement house and the other parts of the said building.

SECT. 24. *Other Dangerous Businesses.*—All transoms and windows opening into halls from any portion of a tenement house where paint, oil, spirituous liquors or drugs are stored for the purpose of sale or otherwise, shall be glazed with wire-glass, or they shall be removed and closed up as solidly as the rest of the wall; and all doors leading into any such hall from such portion of said house shall be made fireproof.

SECT. 25. *General Provisions.*—It shall be understood that the building laws of the City of Boston shall govern the construction of tenement houses and their protection from fire in all particulars not specifically stated in the foregoing sections of this act.

### TITLE III.—LIGHT AND VENTILATION.

SECT. 26. *Height.*—The height of no tenement house hereafter erected shall by more than one-half exceed the width of the widest street upon which it stands. Where there are bulkheads exceeding ten feet in height, or exceeding in area ten per centum of the area of the roof, the measurements shall be taken to the top of the bulkhead; but this shall not apply to elevator enclosures not exceeding fifteen feet in height.

No tenement house shall be increased in height so that the building shall exceed by more than one-half the width of the widest street on which it stands.

SECT. 27. *Yards.*—Behind every tenement house hereafter erected there shall be a yard extending across the entire width of the lot at every point open from the ground to the sky unobstructed, except that fire escapes or unenclosed outside stairs may project not over three feet from the rear line of the house. The depth of said yard shall be measured from the extreme rear wall of the house to the rear line of

the lot, except that where there is an alley or passageway in the rear of the house the depth of said yard may be measured to the middle of said alley or passageway.

Except upon a corner lot the depth of the yard behind every tenement house hereafter erected fifty feet in height or less shall be not less than twelve feet in every part. Said yard shall be increased in depth one foot for every additional ten feet of height of the building, or fraction thereof, above fifty feet.

The depth of the yard behind every tenement house hereafter erected upon a corner lot shall be not less than ten per centum of the depth of such lot, but shall never be less than five feet in every part. Where a corner lot is more than twenty-five feet in width the yard for that portion in excess of twenty-five feet shall conform to the provisions of the preceding paragraph.

No tenement house shall hereafter be enlarged or its lot be diminished so that the yard shall be less in depth than the minimum depths heretofore prescribed for tenement houses hereafter erected. The measurements in all cases shall be taken from the extreme rear wall of the building to the rear lot line and across the full width of the lot, and such yard shall be at every point open from the ground to the sky.

SECT. 28. *Open Spaces of Lots of Unusual Shape.*—Wherever a tenement house hereafter erected is upon a lot which runs through from one street to another street court areas of the dimensions hereinafter prescribed shall be considered the equivalent of yards.

Where a single tenement house hereafter erected is entirely surrounded by public streets or passageways, not less than twelve feet in width, no yard need be provided if all other provisions of this act be complied with. Where a single tenement house hereafter erected is situated on a lot formed by the intersection of two streets at an acute angle, an outer court of the dimensions hereinafter prescribed shall be considered as equivalent to a yard, provided that it extends to a line bisecting the said acute angle.

SECT. 29. *Courts.*—No court of a tenement house hereafter erected shall be covered by a roof or skylight, but every such court shall be at every point open from the ground to the sky unobstructed; provided, that where a store occupies the whole or a portion of the first story a court may start at the level of the second floor, but the intake shall be carried vertically to the level of said second floor.

SECT. 30. *Outer Courts.*—Where one side of an outer court is situated on the lot line, the width of the said court,

measured from the lot line to the opposite wall of the building, for tenement houses fifty feet or less in height in which there is but one apartment on a floor, shall not be less than six feet in any part; and for every ten feet of increase or fraction thereof in height of such tenement houses, such width shall be increased one foot throughout the entire height of said court. For tenement houses in which there are two or more apartments on each floor such outer courts shall never be less than five feet in width, and their length shall never exceed four times their width.

Where an outer court is situated between wings or parts of the same building, or between different buildings on the same lot, the width of the said court, measured from wall to wall, for tenement houses fifty feet or less in height shall not be less than twelve feet in any part, and for every ten feet of increase or fraction thereof in the height of the said building, such width shall be increased one foot throughout the entire height of the said court. The depth of such courts shall never exceed twice their width.

Wherever an outer court changes its initial horizontal direction or wherever any part of such court extends in a direction so as not to receive direct light from the street or yard, the length of such portion of said court shall never exceed the width of said portion; such length to be measured from the point at which the change of direction commences. Wherever an outer court is less in depth than the minimum width prescribed by this section then its width may be equal to, but not less than its depth, provided, that such width is never less than four feet in the clear. This exception shall also apply to each offset or recess in outer courts. And no window except windows of water-closet compartments, bathrooms, or halls shall open upon any offset or recess less than six feet in width.

SECT. 31. *Inner Courts on the Lot Line.*— Where one side of an inner court is situated on the lot line and the building does not exceed fifty feet in height the least width of said court shall be not less than ten feet, and the superficial area of said court shall be not less than one hundred and eighty square feet. For every ten feet of increase or fraction thereof in the height of said building above fifty feet the least width of such inner courts shall be increased by two feet, and the superficial area by 50 per centum.

SECT. 32. *Inner Courts Enclosed.*— Where an inner court is not situated on the lot line, but is enclosed on all four sides and the building does not exceed fifty feet in height,

the least width of said court shall be not less than sixteen feet and the superficial area not less than three hundred and sixty square feet. For every ten feet of increase or fraction thereof in the height of said building above fifty feet the least width of such inner courts shall be increased by four feet and the superficial area by 50 per centum.

SECT. 33. *Vent Courts.*—Inner courts used solely for the lighting and ventilation of water-closets, bath-rooms or interior fire escapes may be constructed in any tenement house and shall be not less than fifteen square feet in superficial area or less than three feet in the least horizontal dimension for buildings fifty feet or less in height. For every increase of ten feet or fraction thereof in the height of such buildings the least dimension shall be increased by one foot, and the superficial area by 50 per centum.

SECT. 34. *Intakes.*—Every inner court shall be provided with one or more horizontal intakes at the bottom. Such intakes, in vent courts, shall not be less than two feet wide and six feet high; in other inner courts they shall be not less than three feet wide and seven feet high. In such intakes as may open on the street there shall be an open grill door at the street line of a size not less than five square feet, and such door shall never be covered over by glass or in any other way.

SECT. 35. *Courts, General Provisions.*—Nothing contained in the foregoing sections concerning outer and inner courts shall be construed as preventing windows at the angles of said courts, provided that the running lengths of the wall containing such windows does not exceed six feet. Offsets from such courts not less than four feet in width and with a depth not exceeding twice the width may be allowed.

SECT. 36. *Buildings on same Lot with Tenement Houses.*—If any building is hereafter placed on the same lot with a tenement house there shall always be maintained between the said buildings an open, unoccupied space extending upward from the ground and extending across the entire width of the lot; where either building is fifty feet or less in height such open space shall be twenty-four feet from wall to wall; and for every ten feet of increase or fraction thereof in the height of such building, such open space shall be increased one foot in depth throughout its entire width. No building of any kind shall be hereafter placed upon the same lot with a tenement house so as to decrease the minimum size of courts or yards as hereinbefore described. If any tenement house is hereafter erected upon any lot upon which there is already another building it shall comply with all of

the provisions of this act, and in addition the space between the said building and the said tenement house shall be of such size and arranged in such manner as is prescribed in this section, the height of the highest building on the lot to regulate the dimensions.

SECT. 37. *Rooms, Lighting and Ventilation of.*—In every tenement house hereafter erected every room, except water-closet compartments and bath-rooms, shall have at least one window opening directly upon the street or upon a yard or court of the dimensions heretofore specified, and such window shall be so located as to properly light all portions of such rooms.

In every apartment in such tenement there shall be at least one room of not less than one hundred and twenty square feet of superficial area provided with a chimney flue and thimble except when said room is furnished with heat from a central heating apparatus. Said room shall have at least one frontage either on a street or yard or on a passageway or alley, provided that the distance from the centre of such passageway or alley to the outer wall of said room is not less than twelve feet for a distance of fifteen feet parallel with said wall.

Wherever a room in such tenement house opens upon any inner court less than ten feet wide, measured from the lot line to the opposite wall of the building, such room shall be provided with a sash window, communicating with another room in the same apartment, such window to contain not less than ten square feet of glazed surface, and to be made so as to readily open. No tenement house shall be so altered that any room or public hall or stairs shall have its light or ventilation diminished in any way.

No room in a now existing tenement house shall hereafter be occupied for living purposes unless it shall have a window upon the street, or upon a yard not less than four feet deep, or upon a court of not less than twenty-five square feet in area, or less than four feet in the least horizontal dimension, open to the sky without roof or skylight. Provided, however, that such room may be occupied for living purposes if it has a sash window opening into an adjoining room in the same apartment, which latter room either opens directly on the street or on a yard of the above dimensions. Said sash windows shall be at least three feet by five feet between stop beads, and both halves shall be made so as to readily open. Where it is not possible to construct a window of this width, then such window may be of such size as may be prescribed by the Health Department, but such window shall never

contain less than fifteen square feet of glazed surface. An alcove opening of no less dimension than said sash window, in addition to the usual door opening, shall be deemed its equivalent.

SECT. 38. *Windows in Rooms.*—In every tenement house hereafter erected the total window area in each room, except water-closet compartments and bath-rooms, shall be at least one-fifth of the superficial area of the room, and the top at least of one window shall not be less than seven feet six inches above the floor, and the upper half of it shall be made so as to open the full width. No such window shall be less than fifteen square feet in area between the stop beads.

SECT. 39. *Rooms, Size of.*—In every tenement house hereafter erected all rooms, except water-closet compartments and bath-rooms, shall be of the following minimum sizes: In each apartment there shall be at least one room containing not less than one hundred and twenty square feet of floor area, and each other room shall contain at least seventy square feet of floor area. Each room shall be in every part not less than eight feet six inches high from the finished floor to the finished ceiling; provided that an attic room need be eight feet six inches high in but one-half its area.

An alcove opening shall be considered as a part of the room into which it opens, and the partition wall between said alcove and said room shall not occupy more than 20 per centum of the area of said opening.

SECT. 40. *Public Halls.*—In every tenement house hereafter erected every public hall shall have at least one window opening directly upon the street or upon a yard or court, or upon a stair well lighted from above. Either such window shall be at the end of said hall, with the plane of the window at right angles to the axis of said hall, or there shall be at least one window opening directly upon the street or upon a yard or court in every twenty feet in length or fraction thereof of said hall; but this provision for one window in every twenty feet of hall-way shall not apply to that portion of the entrance hall between the entrance and the first flight of stairs, provided that the entrance door contains not less than five square feet of glazed surface. One at least of the windows provided to light each public hall or part thereof shall be at least two feet six inches wide and five feet high, measured between the stop beads.

Any part of a hall which is shut off from any other part of said hall by a door or doors shall be deemed a separate hall within the meaning of this section.

Where the public hall is not provided with a window

opening directly to the outer air as above provided, there shall be a stair-well not less than three feet in any dimension extending from the entrance floor to the roof, and all doors leading from such public halls shall be provided with translucent glass panels of an area of not less than five square feet for each door, and also with fixed transoms of translucent glass over each door.

There shall be in the roof, directly over each stair-well, a ventilating skylight provided with ridge ventilators, having a minimum opening of forty square inches, or such skylight shall be provided with fixed or movable louvres; the glazed roof of such skylight shall not be less than twenty square feet in area. In tenement houses hereafter erected where the stairs and public halls are not provided with windows on each floor opening directly to the outer air, the skylights shall be provided with both such ridge ventilators, and also with fixed or movable louvres or movable sashes.

SECT. 41. *Public Halls, Lighting of.*—In every existing tenement house, whenever a public hall on any floor is not sufficiently lighted in the daytime in the judgment of the Health Department, the wooden panels in the doors located at the ends of the public halls and opening into rooms shall be removed, and ground glass, or other translucent glass or wire glass panels of an aggregate area of not less than four square feet for each door shall be substituted; or in lieu of removing the panels in the doors a fixed sash window of wire glass of an area of not less than five square feet may be cut into the partitions separating the said hall from a room which opens directly upon the street or upon a yard, court, or shaft of the dimensions hereinbefore specified; or said public hall may be lighted by a window or windows at the end thereof with the plane of the window at right angles to the axis of the said hall, said window opening upon the street or upon a yard, court, or shaft of said dimensions; or, if these provisions are insufficient, said hall shall be lighted by artificial lights, kept burning by the owner from sunrise to sunset.

In every tenement house proper lights shall be kept burning by the owner in public hallways, and public stairways, upon the entrance floor, and upon the second floor, above the entrance floor of said house, every night from sunset to sunrise throughout the year.

SECT. 42. *Windows for Stair Halls, Size of.*—In every tenement house hereafter erected the aggregate area of windows to light or ventilate stair halls shall be at least fifteen square feet for each floor.

SECT. 43. *Skylights.*—In every tenement house there

shall be in the roof, directly over each stair well, a ventilating skylight. Provided, that this section shall not apply to a tenement house now having a bulkhead in the roof over the main stairs, which bulkhead is provided with windows made so as to readily open, and with not less than twelve square feet of glass in the top of said bulkhead.

The roofs of such skylights shall contain the following amounts of glazed surface: not less than twelve square feet in any tenement house; in four-story buildings not less than fifteen square feet; in buildings over four stories three square feet for each additional story. All skylights hereafter placed in any tenement house shall conform to the provisions of Section 40 of this act. All existing dome lights or other obstructions to skylight ventilation shall be removed.

SECT. 44. *Privacy.*—In every apartment of four or more rooms in a tenement house hereafter erected, access to every living room and bed-room and to at least one water-closet compartment shall be had without passing through any bedroom.

SECT. 45. *Chimneys or Fireplaces.*—In every tenement house there shall be adequate chimneys running through every floor with an open fireplace or grate, or place for a stove, properly connected with one of said chimneys for every apartment.

#### TITLE IV.—SANITARY PROVISION.

SECT. 46. *Basements in Tenement Houses hereafter Erected.*—In tenement houses hereafter erected no room in the basement shall be constructed, altered, converted or occupied for living purposes, unless all of the following conditions are complied with:

1. Such room shall be at least eight feet six inches high in every part from the floor to the ceiling; provided, that in buildings already erected and not now used as tenement houses, but hereafter altered or converted to such use, such room shall be not less than seven feet high in every part.

2. There shall be appurtenant to such room the use of a separate water-closet, constructed and arranged as required by Section 49 of this act.

3. Such room shall have a window or windows opening upon the street or upon a yard or court. The total area of windows in such room shall be at least one-fifth of the superficial area of the room, and one-half of the sash shall be made to open the full width, and the top of each window shall be within six inches of the ceiling.

4. The floor of such room shall be damp-proof and water-proof, and all walls surrounding such room shall be damp-proof.

SECT. 47. *Basement and Cellars, Conditions of Occupancy.*—Hereafter no cellar of any tenement house may be occupied for living purposes, and no basement may be so occupied without a written permit from the Health Department, and such permit shall be kept readily accessible in the main living room of the apartment containing such room. The said written permit shall be issued when all of the following conditions are complied with. If refused, the reason for such refusal shall be stated by said department, in writing, and a copy thereof shall be kept in a proper book in the office of said department, and be accessible to the public.

1. Such room shall be at least seven feet high in every part from the floor to the ceiling.

2. The ceiling of such room shall be in every part at least four feet above the surface of the street or ground outside of or adjoining the same.

3. There shall be appurtenant to such rooms the use of a water-closet.

4. There shall be outside of and adjoining such room, and extending along the entire frontage of at least one of the rooms of the apartment, an open space of at least two feet six inches wide in every part, unless such room extends for more than one-half of its height above the curb level. Such space shall be well and effectually drained.

5. Such room shall have a window or windows opening to the outer air of at least fifteen square feet in size, clear of the sash frame, and which shall have been made to readily open for purposes of ventilation.

6. If the house is situated over marshy ground, or ground on which water lies, or ground on which there is water pressure from below, the lowest floor shall have been made waterproof and damp-proof.

7. Such room shall have sufficient light, shall be well drained and dry, and shall be fit for human habitation.

SECT. 48. *Cellar Walls and Ceilings.*—The cellar walls and ceilings of every tenement house shall be thoroughly whitewashed or painted a light color by the owner and shall be so maintained. Such whitewash or paint shall be renewed whenever necessary, as may be required by the Health Department. Cellar ceilings shall be plastered, when so required by the Health Department, except where the first floor above the cellar is constructed of iron beams and fireproof filling.

SECT. 49. *Water-closets in Tenement Houses hereafter*

*Erected.* — In every tenement house hereafter erected there shall be a separate water-closet in a separate compartment within each apartment of four or more rooms. Where apartments consist of less than four rooms there shall be at least one water-closet for every three rooms, and on the same floor with said rooms. Every such water-closet shall be placed in a compartment completely separated from every other water-closet; such compartment shall be not less than two feet and four inches wide, and shall be enclosed with plastered partitions, which shall extend to the ceiling. Such compartments shall have a window opening directly upon the street or yard, or upon a vent court. Every such window shall be at least one foot by three feet between stop beads; and the entire window shall be made so as to entirely open. When, however, such water-closet compartment is located on the top floor and is lighted and ventilated by a skylight over it, no window shall be necessary, provided the roof of such skylight contains at least three square feet of glazed surface and is arranged so as to readily open. Nothing in this section in regard to the separation of water-closet compartments from each other shall apply to a general toilet-room containing several water-closets hereafter placed in a tenement house, provided such water-closets are supplemental to the water-closet accommodations required by law for the use of the tenants of the said house. Nothing in this section in regard to the ventilation of water-closet compartments shall apply to a water-closet hereafter placed in a tenement house, where it is provided to replace a defective fixture in the same position and location. No water-closet shall be maintained in the cellar of any tenement house without a special permit in writing from the Health Department, which shall have power to make rules and regulations governing the maintenance of such closets. Every water-closet compartment hereafter placed in any tenement house shall be provided with proper means of lighting the same at night. If fixtures for gas or electricity are not provided in said compartment then the door of said compartment shall be provided with translucent glass panels, or with a translucent glass transom, not less in area than four square feet. The floor of every such water-closet compartment shall be made waterproof with asphalt, tile, stone, or some other waterproof material; and such waterproofing shall extend at least six inches above the floor on all sides of said compartment except at the door opening, so that the said floor can be washed or flushed out without leaking. No

drip trays shall be permitted. No water-closet fixtures shall be enclosed with any woodwork.

SECT. 50. *Water-closets in Existing Tenement Houses.*—In all now existing tenement houses the woodwork enclosing all water-closets shall be removed from the front of said closets, and the space underneath the seat shall be left open. The floor or other surface beneath and around the closet shall be maintained in good order and repair, and if of wood shall be kept well painted with light-colored paint.

Where a connection with a sewer is possible, privy vaults or other similar receptacles used to receive fecal matter, urine or sewage shall be completely removed and the place where they were located properly disinfected under the direction of the Health Department. Such appliances shall be replaced by individual water-closets of durable non-absorbent material properly sewer connected, and with individual traps, and properly connected flush tanks providing an ample flush of water to thoroughly cleanse the bowl. Each water-closet shall be located in a compartment completely separated from every other water-closet, and such compartment shall contain a window of not less than three square feet in area opening directly to the outer air. The floors of the water-closet compartment shall be waterproof. There shall be provided at least one water-closet for every two families or for every four rooms in every now existing tenement house.

SECT. 51. *Water Supply.*—In every tenement house hereafter erected there shall be in each apartment a proper sink with running water.

Every existing tenement house shall have water furnished in sufficient quantity at one or more places on each floor occupied by or intended to be occupied by one or more families. The owner shall provide proper and suitable tanks, pumps or other appliances to receive and to distribute an adequate and sufficient supply of such water at each floor in the said house, at all times of the year, during all hours of the day and night. But a failure in the general supply of water by the city authorities shall not be construed to be a failure on the part of such owner, provided that proper and suitable appliances to receive and distribute such water have been provided in said house.

The woodwork enclosing sinks located in the public halls or stairs shall be removed, and the space underneath said sinks shall be left open. The floors and wall surfaces beneath and around the sink shall be maintained in good order and repair, and if of wood shall be kept well painted with light-colored paint.

SECT. 52. *Plumbing.*—In every tenement house hereafter erected all plumbing pipes shall be exposed, unless the Building Commissioner shall give permission for other construction. Where plumbing or other pipes pass through floors or partitions, the openings around such pipes shall be sealed or made air-tight with plaster, or other incombustible materials, so as to prevent the passage of air or the spread of fire from one floor to another or from room to room.

SECT. 53. *Cleanliness of Buildings and Areas.*—Every tenement house and every part thereof shall be kept clean and free from any accumulation of dirt, filth, or garbage or other matter in or on the same, or in the yards, courts, passages, areas or alleys connected with or belonging to the same. The tenant of any tenement house shall thoroughly cleanse all the rooms, floors, windows and doors of the house or part of the house of which he is the tenant, to the satisfaction of the Health Department. The owner of every tenement house shall thoroughly cleanse all portions of said tenement house or part of the house of which he is the owner which are not included within any apartment, and shall keep the said parts of the said tenement house in a cleanly condition at all times to the satisfaction of the Health Department. No person shall place filth, urine or fecal matter in any place in a tenement house other than that provided for the same, or keep filth, urine or fecal matter in his apartment or upon his premises such length of time as to create a nuisance. The owner of every tenement house, or part thereof, shall be held responsible by the Health Department for the uncleanliness of all courts, yards, open areas or alleys connected with said house. Upon notification by said department of any accumulation of dirt, garbage or refuse in said open spaces, he shall remove the same within twenty-four hours of the receipt of such notice.

SECT. 54. *Drainage of Courts and Yards.*—In every tenement house all courts, areas, intakes and yards shall be properly graded and drained, and connected with the street sewer so that all water may pass freely into it; and when required by the Health Department shall be properly concreted.

SECT. 55. *Walls of Courts and Shafts.*—The walls of all courts, unless built of a light color brick or stone, shall be thoroughly whitewashed by the owner or shall be painted a light color by him, and shall be so maintained. Such whitewash or paint shall be renewed whenever necessary, as may be required by the Health Department.

SECT. 56. *Repairs.*—Every tenement house and all the parts thereof shall be kept in good repair, and the roof shall be

kept so as not to leak, and all the rain water shall be so drained and conveyed therefrom as to prevent its dripping on to the ground or causing dampness in the walls, ceilings, yards or areas. No wall paper shall be placed upon a wall or ceiling of any tenement house unless all wall paper shall be first removed therefrom and the wall and ceiling thoroughly cleaned.

SECT. 57. *Receptacles for Garbage and Ashes.*—The owner of every tenement house shall provide for said building proper and suitable conveniences or receptacles for ashes, rubbish, garbage, refuse and other matter satisfactory to the Health Department. No person shall place ashes, rubbish, garbage, refuse or other matter in the yards, open areas or alleys connected with any tenement house except in suitable receptacles for the same.

SECT. 58. *Prohibited Uses.*—No horse, cow, calf, swine, sheep or goat shall be kept in a tenement house, or on the same lot or premises thereof, and no tenement house, or the lot or premises thereof, shall be used for a lodging house, or for the storage or handling of rags.

SECT. 59. *Janitor and Housekeeper.*—Whenever there shall be eight or more families living in any tenement house, in which the owner thereof does not reside, there shall be a janitor, housekeeper or some other responsible person who shall reside in said house and have charge of the same, if the Health Department shall so require.

SECT. 60. *Private Alleys.*—All privately owned alleys or passageways in the City of Boston shall hereafter be cleaned by the Street Cleaning Division of the Street Department in the same manner as the public streets and at the expense of the city.

#### TITLE V.—REMEDIES.

SECT. 61. *Registry of Owner's Name.*—Every owner of a tenement house and every lessee of the whole house, or other person having control of a tenement house, shall file in the Health Department his name and address, and also a description of the property, by street number or otherwise, as the case may be, in such manner as will enable the Health Department easily to find the same; and also the number of apartments in each house, the number of rooms in each apartment, and the number of families occupying the apartments. In case of a transfer of any tenement house, it shall be the duty of the grantor of said tenement house to file in the Health Department a notice of such transfer, stating the name of the new owner, within thirty days after such transfer.

SECT. 62. *Registry of Agent's Name.*—Every owner, agent or lessee of a tenement house may file in the Health Department the name and address of an agent of such house, for the purpose of receiving service of process, and also a description of the property by street number or otherwise, as the case may be, in such manner as will enable the Health Department easily to find the same. The name of the owner or lessee may be filed as agent for this purpose.

SECT. 63. *Posting of Owner's or Agent's Name.*—Every owner, agent or lessee of a tenement house shall have posted in the entrance hall of said house a metal plate on which shall be inscribed in letters not less than one-half inch in height the name and address of such owner and of the agent or person having charge of the same.

SECT. 64. *Service of Notices and Orders.*—Every notice or order in relation to a tenement house shall be served five days before the time for doing the thing in relation to which it shall have been issued, provided that all orders with reference to the removal of nuisances of any sort and the cleaning of yards may compel immediate action. The posting of a copy of such notice or order in a conspicuous place in the tenement house, together with the mailing of a copy thereof, on the same day that it is posted, to each person, if any, whose name has been filed with the Health Department, at his address as therewith filed, shall be sufficient service thereof.

SECT. 65. *Service of Summons.*—In any action brought by any city department in relation to a tenement house for injunction, vacation of the premises, or other abatement of nuisance, it shall be sufficient service of the summons to serve the same as notices and orders are served under the provisions of the last section; provided, that if the address of any agent whose name and address have been filed with the Health Department is in the City of Boston, then a copy of the summons shall also be delivered at such address to a person of proper age, if upon reasonable application admittance can be obtained and such person found; and provided, also, that personal service of the summons upon the owner of such tenement house shall be sufficient service thereof upon him.

SECT. 66. *Indexing Names.*—The names and addresses filed in accordance with Sections 61 and 62 shall be indexed by the Health Department in such a manner that all of those filed in relation to each tenement house shall be together, and readily ascertainable. The Health Department shall provide the necessary books and clerical assistance for that purpose, and the expense thereof shall be paid by the city. Said

indexes shall be public records, open to public inspection during business hours.

SECT. 67. *Inspection of Tenement Houses.*—The Health Department shall provide a sufficient number of inspectors, not more than six of whom may be women. Every tenement house shall be carefully inspected at least once in three months. Such inspection shall include examination of cellars, halls, water-closets, privies, plumbing, yards, areas, fire-escapes, roofs, shafts, courts, tanks, and all other parts of such tenement houses and the premises connected therewith. In tenement houses where the average rental of the apartments therein is twenty-five dollars a month or more, such inspection may be made less often than once in three months as above provided, at the discretion of the Board of Health.

SECT. 68. *Sanitary Police.* The Board of Police for the City of Boston shall, upon requisition by the Health Department of said city, detail to the exclusive service and direction of said Health Department for enforcing the laws and ordinances relative to the preservation of health and to tenement houses, such number, not exceeding twenty-five, of police officers, satisfactory to the Health Department, as the Health Department may desire; and the services of the police officers so detailed shall be paid for by said Health Department, and said officers so detailed shall continue subject to the direction of said Health Department until exchanged for others at the request of said department. Said Board of Police is hereby authorized and empowered to appoint patrolmen, in number not exceeding twenty-five, to fill any vacancies in the police force in the city which may be caused by the detailing of officers as provided in this act.

SECT. 69. *Free Access to Buildings.*—Every officer of the Health Department, and every officer upon whom any duty or authority is conferred, shall have free access to every part of any tenement house when required for the proper execution of the duties of his office.

SECT. 70. *Jurisdiction.*—Any court having equity jurisdiction in term time or vacation may, on the application of the Health Department, by any suitable process of decree in equity, enforce the provisions of this act, and may, on such application, issue an injunction to restrain the use or occupation of any tenement house in the City of Boston, erected, altered or used in violation of this act.

SECT. 71. *Penalties for Violations.*—Every person who shall violate any provision of this act shall be punished by a fine not exceeding one thousand dollars.

SECT. 72. *Repeal.*—All statutes of the Commonwealth

and ordinances of the City of Boston, so far as they are inconsistent with the provisions of this act, are hereby repealed.

SECT. 73. *Time of Taking Effect.*—This act shall take effect upon its passage.

## SPECIAL REPORT.

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BOSTON, May 18, 1904.

HON. PATRICK A. COLLINS,

*Mayor of the City of Boston:*

DEAR SIR,—I agree with the conclusions and recommendations of the majority of my associates of the Tenement House Commission, as embodied in the suggested Tenement House Act, except on one point, namely, that the planning of future tenement houses shall be practically dictated and controlled by statutory enactment as provided for in the sections of said act included under the third title, "Light and Ventilation."

Believing that a more satisfactory method than that of hard-and-fast law can be found for securing in future tenement houses the desirable features of additional light, air, privacy, etc., I append a detailed alternative recommendation in regard to this question, with my reasons therefor. The sections above referred to prescribe in great detail and with many provisos and exceptions the sizes of yards, courts, rooms, stairways, corridors, toilet compartments, windows, etc., and the relative disposition and location of many of these features. Their main purpose is to make it an impossibility to hereafter construct badly lighted and ventilated tenement houses in Boston. I have no doubt if these sections were to become law that the anticipated negative results would be achieved. Whether such a law, however, would also encourage the building of many new and desirable tenement houses,—and this, it seems to me, is the all-important object to strive for,—is a matter of great uncertainty, because there is no provision for the many unforeseen contingencies that are likely to arise when it would be desirable, in the proper interests of owners, to interpret the spirit rather than the letter of such a law. If the requirements in these sections should operate to expropriate from an owner a greater proportion of his land for light and air than is necessary to bring his proposed building within the definition of a well-planned house, thereby reducing his rentable area to such a point that a reasonably satisfactory investment thereon would be impossible, then I think it could fairly be maintained that the law was oppressive and therefore worse than useless.

I believe that just such cases as the one I have assumed above would occur more or less frequently in actual experience. In my opinion, the danger of doing an injustice in special cases will always exist unless some means be provided for infusing flexibility and elasticity into the law. This necessity was apparently recognized, when the present inadequate laws on this subject were framed, by granting discretionary power to the Building Commissioner to alter and amend the same within certain limits and under certain conditions. The results have not been very satisfactory, it must be admitted, but this is because the discretionary power has not been controlled by proper duties and restrictions, and has been vested, besides, in only one official. Certainly, if no safer method than exists at present can be found, then a hard-and-fast law, with annual amendments as the only remedy, is the most desirable consummation, and the provisions of the sections under discussion would be found to be more thorough and scientific than have ever before been attempted in Massachusetts. But I believe that a better alternative is possible. It is the object of this supplementary report to lay this alternative, together with what I consider its advantages, before you for consideration. I would welcome rather than fight shy of discretionary power, provide for its administration a properly composed board or commission of such size and quality and controlled by such restrictions and duties as to inspire confidence in the wisdom of its decisions, and frankly depute to it the law-making power regarding the planning of future tenement houses.

I recommend that a board of experts be created entitled the "Advisory Board for Tenement Houses," the purpose of which shall be the control of all planning of new tenement houses and the premises thereof.

This board to be composed of the Chairman of the Board of Health and the Building Commissioner *ex officiis*; two architects, to be appointed by the Mayor from a list submitted to him by the Boston Society of Architects, one for two years and one for one year, and the terms of these two members to be two years each after the expiration of the first terms; one representative of the philanthropic interests of Boston, one real estate man, and one representative landlord. These three last-mentioned members to be appointed by the Mayor for three, two, and one years, respectively; their terms to be three years each after the expiration of the first terms.

The compensation of each of the independent members to be five dollars for each hour of actual service, but not ex-

ceeding five hundred dollars per annum. This compensation to be paid by the city.

The members *ex officiis* to receive no compensation. The said board to be allowed, by the city, the sum of four thousand dollars per annum for clerical assistance and office expenses.

The duties of said board shall be as follows:

*First.*—To frame, within three months after appointment, regulations for the planning of tenement houses, such as prescribing sizes of yards, courts, vent courts, light shafts, stairways, rooms, windows and their disposition and methods of ventilation of apartments; location, lighting, ventilation and number of water-closets and sinks; means of lighting public stairways and halls, and any other details of planning not inconsistent with existing laws.

*Second.*—To make or cause to be made within three months after appointment typical sketch plans for tenement houses which shall embody and illustrate the features covered by the said regulations, and to have such plans printed and attached to said regulations, so that they shall form a part thereof.

*Third.*—To properly advertise in five of the daily Boston newspapers, at the expiration of the aforesaid three months, that the board is ready for business, and that after that date their powers begin.

*Fourth.*—To distribute such regulations and plans to all inquiring prospective tenement house owners or their agents.

*Fifth.*—To receive all preliminary plans of proposed new or altered tenement houses; to examine the same, and, if inconsistent with the regulations, to so notify the prospective owner or his agent, and confer with said owner or agent with a view to pointing out defects in the plans and remedies therefor. It shall also be the duty of the board to examine any tenement house plan in its relation to adjoining property and the present and probable future character of the neighborhood concerned, and to approve or disapprove the said plan at its discretion.

*Sixth.*—To receive all finished or working drawings of new or altered tenement houses, and, if approved, to so certify thereon, whereupon such plans may be filed with the Building Commissioner with an application for a permit to build, but without such certificates no permits to build shall be granted by the Building Commissioner.

A certificate from the Health Department that the building when completed is in accordance with the plans shall be a prerequisite to occupancy.

The said board shall have powers as follows:

*First.* — To require that all planning of new or altered tenement houses shall be to its satisfaction.

*Second.* — To print on its regulations a clause to the effect that such regulations are intended to be suggestive only, and that the right is reserved by the board to amend the same whenever it sees fit, but only by a unanimous vote of at least six of its members, and only after the expiration of one week from the time of notification, and with the proviso that such amendments shall not be held to apply to such plans as have in their preliminary stage been approved before such amendments were made, and with the further proviso that an amendment shall not be held to be necessarily general in its application, but may pertain only to some special case.

*Third.* — To refuse to certificate the finished or working drawings of any new or altered tenement house until the planning of same is satisfactory to the said board. Said board shall be prohibited from ever requiring an owner to utilize for building purposes less than 70 per cent. of the total area of his lot, said area to be comprised in the dimensions of the actual lot, and not computed as from the centre line of street or alley. For corner lots similar restrictions shall be placed at 90 per cent. It shall be prohibited from allowing any owner to build the rear line of his house nearer than twelve feet to the rear line of his lot or to the centre line of a rear alley; shall be prohibited from allowing any ells or other structures in the yards of tenement houses except bins or the like for the housing of garbage and refuse receptacles; shall be prohibited from allowing any tenement house to exceed in height one and one-half times the width of the street on which it fronts; and, finally, shall be prohibited from amending its own regulations except by a unanimous vote of six of its members and not earlier than one week after the proposed amendment shall have been presented in writing to each of the members.

The advantages to be derived from the creation of such a board as outlined above would be many and far-reaching, and although given very large discretionary powers, the number of its members, and their recognized expertness and character, together with the duties imposed upon them, would be a guarantee that such powers would be used wisely and fairly.

The restrictions as to amendments would serve as a safeguard against too great haste, caprice or soft-hearted inclinations, while the required exhaustive regulations accompanied by typical illustrative plans would be of great benefit to prospective tenement-house builders in enabling them to

understand what would be expected of them before they had incurred much expense in the preparation of drawings.

Such a board, being continuous, would insure constant and well-informed interest in the subject, and as fast as new ideas and solutions were conceived and approved they would be embodied in future regulations, so that the tendency would always be towards an improvement in the planning of tenement houses, and the financial interests of owners would always receive respectful, sympathetic and helpful consideration.

Outwardly it would appear to be, and should actually be, a consulting board of experts, placed by the city at the free disposal of prospective tenement-house owners, to aid them by advice, and by printed typical plans and regulations to secure the best results. Their power need not be made offensively apparent, but it would always exist, if in the background, acting as a restraining influence, and in reality would be absolutely effective in prohibiting unfit houses. Yet the machinery for accomplishing this would be very simple and inexpensive; one salaried clerk or secretary and six hundred square feet of office room for the weekly or semi-weekly meetings would suffice.

The board would not be administrative — would require no bureau of records, and very little red tape, and would not conflict with the functions of any existing department. Its duties would not entail much labor on its members, after the first work of preparing regulations and plans had been accomplished, and the cost to the city need not exceed six thousand five hundred (6,500) dollars per annum.

The work would sit lightly upon such a body of experts, who would probably find it extremely interesting, and I believe that plenty of public-spirited and able citizens could be found willing to undertake it, despite the nominal compensation allowed.

Under the oversight of such an advisory board I am confident that ideal results will be most nearly attained and retained, so that our community may feel for many years to come that its tenement houses, in so far as they may provide for light, ventilation, protection from fire, privacy and convenience, are a cause for congratulation rather than a source of danger to the health of the occupants and to the community at large.

Respectfully submitted,

WILLIAM D. AUSTIN.

## MINORITY REPORT.

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BOSTON, May 18, 1904.

HON. PATRICK A. COLLINS,

*Mayor of the City of Boston :*

DEAR SIR,— In compliance with your request of April 15, 1903, that I serve as one of a commission to investigate the tenement-house conditions in Boston and make such recommendations as seem advisable in view of existing conditions, I beg leave to report as follows:

I am unable to agree with many of the recommendations approved by the majority of the committee, as some of them seem to me to have little bearing upon the conditions which, in my opinion, exist in the City of Boston. I therefore confine myself to the conditions as they seem to me to exist in this city, and to such recommendations and remedies as are available under present conditions and under the laws and customs of this Commonwealth. Some of my suggestions are not in conflict with the majority report, but I have summed up what seem to me to be the essential requirements in view of existing conditions.

I have personally, within the last year, looked into the conditions which exist in London, Edinburgh, Glasgow, and New York, and the remedies which are being adopted to reform conditions found to exist therein. I find few of the remedies which are being adopted in those municipalities applicable to the conditions which exist in Boston.

Very few buildings have ever been erected in Boston for tenement houses as such. Most of the buildings which are occupied at the present time as tenement houses were originally constructed as dwellings for a single family. Owing to the changed conditions in the earning capacity of the community, the rise in values of real estate, increased taxes, etc., by far the larger portion of the community has been driven into smaller and smaller quarters, thus converting the old buildings, with very little change, into residences for several families.

It is my opinion that the community as a whole will live in as good shape as far as houses and conditions are concerned as their earning capacity will permit. Within the

last thirty years the character and occupation of a large section of the city has materially changed ; I refer especially to the West and South Ends, so-called, covered with substantial, well-built, brick houses on wide streets, and ample yard room in the rear. Under the present building laws it is impossible to remodel these buildings and adapt them to the changed conditions and needs of the community. There is no reason, in my opinion, why any existing brick building in the city limits, built as a dwelling for a single family, might not with safety be remodelled into suites — a tenement on a floor, using second-class construction, so-called. This will house a large portion of the community comfortably and within the means of the average wage-earner for many years.

A careful examination of the statistics of the Fire Department will show that of all the fires in brick dwellings within the last five years, not more than 1 or 2 per cent. has damaged the structural part of the building to any appreciable extent, the danger being caused by the destruction of inflammable personal property creating dense smoke, which is the great danger to the occupants of the building.

I believe that each suite should have two independent means of egress for the safety of the occupants.

A minimum width of stairs should be provided, with an increased width for each additional story ; wire glass should be permitted for door panels to properly light the halls.

I am not alarmed at the statistics showing the number of cases of tuberculosis in the city, as I believe it is a disease fostered more by poor and insufficient food than by the structural condition of buildings.

The Board of Health is making satisfactory progress in requiring abutters to pave private alleys.

I recommend that all alleys in the city, whether public or private, be cleaned at the expense of the city.

I further recommend that solid wooden fences throughout the city in the rear of dwellings be prohibited ; that only open iron or wire fences be permitted. This will allow a free circulation of air. It will also, in my opinion, be a distinct benefit in policing the city, as enclosed back yards and alleys are a favorite resort for all kinds of criminals, and if the space is kept open so that an uninterrupted view may be obtained, it will reduce the hiding places materially.

I further recommend that all distinction in regard to the number of families, as far as occupation of brick buildings for habitation is concerned, be abolished by statute, and leave the occupation of all such buildings to be regulated by the Board of Health. Why a brick building four stories or less

in height, with ample light and air for every room, may not be occupied by six families consisting of twelve people, as well as by three families consisting of anywhere from twelve to thirty people, surpasses my comprehension.

The present evils of overcrowding arise largely from natural causes. The immigrants who land on these shores, possessed of little property, ignorant of the language and customs of the country, naturally herd together, each nationality by itself. I think a careful examination of the tendency of the new-comer for the last few years will show that just as quick as a little property is accumulated and a familiarity with the language and customs of the country is acquired, he moves to the outlying districts and mingles with the community as a whole.

I, therefore, recommend that plans for every brick or stone building adapted for the occupation of more than one family shall be filed with the Board of Health, and said board shall prescribe by general regulations the maximum number of people permitted to occupy said building. This will give a certain amount of elasticity to the law, which it is impossible to prescribe by statute.

I recommend that the open area required in the rear and on the sides of all buildings adapted for habitation should be governed entirely by the height of the building, a minimum space for buildings of three stories, and a larger space as the height increases. I would restrict all new buildings for dwellings to four stories in height, unless constructed of fire-proof material. I would prohibit the erection of wooden buildings to be occupied by more than two families.

I see nothing in the present conditions which calls for a separate department for the supervision of tenement houses. The Building Department should be required to see only that the building is constructed in a proper manner. Civil engineers, masons, and carpenters are not the persons to regulate the occupancy of buildings; the use and occupation after they are constructed should be cared for by the Board of Health.

Building has practically ceased in Boston under the present law owing to its stringent conditions and the price of material and labor. If the law be changed so as to permit substantial brick buildings of second-class construction the so-called slum will disappear by its own weight. As quick as people can secure comfortable dwellings of modern construction for a price within their means they will immediately leave the old and tumble-down tenements, and the owner will be obliged, as a matter of self-defence, to rebuild.

I approve the general idea of Mr. Austin's suggestion in regard to a commission which shall have discretionary powers, but I would give said commission jurisdiction over all buildings in the city, for the reason that so many lots, especially in the old part of the city, are of such irregular dimensions that it is practically impossible to draft a statute which in its application will do justice to the land owner. A building which may be perfectly safe, as far as its own use and occupation is concerned, and also with reference to adjoining property in one section of the city, may not be so in another location. This would prevent a constant appeal to the Legislature for an amendment to the building law to fit specific instances, which in the past has resulted in making the building law a patchwork of sections drawn for specific cases, which are hard to apply as a general rule. If a board should be constituted consisting of the Fire Commissioner, Chairman of the Board of Health, the City Engineer, the Corporation Counsel, and an architect appointed by the mayor, it would seem to me to be the best composition of such a board. This would not create an additional paid board, but it would be constituted of men who have a peculiar knowledge of the needs of the community and what might with perfect safety be allowed.

I further recommend an extension of the fire limits, as I believe the great danger to the city is from the spread of fire. Fires always have occurred, and probably always will occur, but the spread of fire may, with reasonable precautions, be confined to the building where it originates.

I further recommend an amendment to the statute prohibiting insurance companies from insuring buildings which are not constructed according to law. There would be very little attempt to evade the law if this suggestion should be adopted.

In reference to the proposed act approved by the majority of the Commission, although it contains many desirable features, I am unable to approve it for the reason that it is drawn following largely the tenement house act of New York, and if enacted in its present form would lead, in my opinion, to the introduction of a style of building in Boston which does not exist at the present time, and has been adopted in New York to meet the requirements which have grown up in that city under far different conditions from those which have ever existed in Boston. I refer especially to the provisions in regard to courts, alleys, and intakes. Several of the sections refer to matters which are now regulated by the Revised Laws of the Commonwealth, and are simply a repe-

tition of enactments that have been on the statute books for many years, and are of general application throughout the Commonwealth.

The object of a building law, in my opinion, should be to make it as easy to build as is consistent with safety to adjoining property and the health of the community, leaving out petty restrictions which conduce to the safety neither of the building nor its occupants.

I approve in a general way of the suggestions in the proposed act for service of notice and summons, but not in the form in which drawn, as they are not adapted to the practice of the courts of this Commonwealth. This is, however, a matter of detail easily rectified.

In brief, it seems to me the thing needed in Boston at the present time is a thorough revision of the building laws so that people can afford to build substantial brick dwellings of second-class construction. If this were permitted there would be less and less building of wooden houses. People seem to live safely in a comfortable manner in the suburbs of Boston, where they are not hampered by the many petty restrictions imposed by the building laws inside the city limits, and I know of no reason why buildings should not be built in Boston so that people can afford to live within the city limits. Poverty largely creates the so-called slum, and no statute ever has or can abolish it. If poverty and indolence are ever abolished by law, it will be by legislation on a much broader scope than is necessary in providing how brick and mortar shall be put together to comfortably house the community.

Respectfully submitted,

SAMUEL M. CHILD.

## APPENDIX A.

Appendix A contains a summary of the salient results of a study made by the Statistics Department of 5,232 reports on tenement houses inspected by the Health Department between March 20, 1901, and October 23, 1903. The original material is on file in the Health Department. It consists of the original reports rendered by the inspectors on duty in the 17 inspection districts included within the city. To facilitate the statistical treatment of the material the statement of certain principal facts set forth in the individual inspection reports was transferred to a specially prepared card. The form of card used appears on next page.

The assembled cards constitute an index or catalogue by wards and streets, of 5,232 reports on tenement houses inspected in the period referred to. This index can readily be kept up to date, and will be of value for purposes of reference in the further study of the tenement-house situation.

Table I is a summary table. It shows by wards, under twelve general heads, the most significant facts concerning the tenement houses subject to periodical inspection by the Health Department. For the whole city those facts may be stated as follows:

In 5,232 houses inspected there were 101,378 persons in 27,504 tenements, comprising 105,576 rooms, on 20,634 floors. Of 5,232 houses 623, or 11.91 per cent. were overcrowded; 315, or 6.01 per cent., contained dark halls; and 1,052, or 20.11 per cent., had defective drainage. Water-closets numbered 20,490, *i.e.*, 4 per house, or 1.4 per tenement, or one to every 5 (4.9) occupants. Of the rooms inspected, 5,844, or 5.53 per cent., were pronounced "dark"; 3,446, or 3.26 per cent., were in basements. Of the basement rooms 1,032, or 29.95 per cent., were occupied.

Ward 6 contained the largest number of tenement houses, viz., 925 (with 26,259 occupants), found in any one ward. Ward 6, with Wards 8, 9, 10 and 18, contained over three-fifths of the tenement houses and nearly seven-tenths of the tenement house population of the city, as disclosed by the Health Department inspections.

REPORT	STREET	DISTRICT	YEAR	OWNER
1. No. of floors—	1. Water-closets:	1. Drainage:		
2. No.—tenements.	Total number—	Satisfactory.		
3. Total No. rooms—	In cellar—	Defective.		
4. —Occupants found.	In yard—			
5. Occupants allowed—	2. Dark rooms:	2. Yard:		
6. Rooms under 300 cubic feet, per person—	Total number—	Filthy. Clean.		
7. —Rooms under 300 cubic feet.	(a) No.—on—floor. (b) No.—on—floor. (c) No.—on—floor.	Drained. Paved.		
8. Not overcrowded in: (a)—rooms on—floor. (b)—rooms on—floor. (c)—rooms on—floor.	3. —No. living in cellar.	Concreted.		
	4. Rooms in basement; total—			
	—rooms occupied.	3. Garbage Receptacles:		
	5. Walls, ceilings: Good. Bad.	Good. Bad.		
	6. Halls: Lighted. Dark.	Lacking.		

APPENDIX A. TABLE I.—Concerning Tenement House Conditions.

WARD.	Number of Houses.	Over- Crowded.	Number of Floors.	Number of Tene- ments.	Number of Rooms.	Number of Occupants.	Number of Water Closets.	Number of Dark Rooms.	Number Living In Cellar.	BASEMENT ROOMS.		Dark Halls.	Defective Drainage.
										Number.	Occupied.		
1 .....	14	.....	50	65	223	212	50	.....	.....	6	6	.....	3
2 .....	68	.....	224	262	855	937	146	16	.....	23	20	5	16
3 .....	53	.....	189	245	864	722	167	29	.....	21	3	4	9
4 .....	36	1	124	178	732	620	133	24	.....	8	3	1	18
5 .....	60	.....	217	274	1,075	1,047	200	42	.....	12	5	4	25
6 .....	925	189	3,725	5,431	16,505	26,259	2,865	927	.....	330	97	84	244
7 .....	291	11	1,168	1,549	4,903	4,656	966	155	.....	133	37	35	50
8 .....	729	218	3,063	3,720	13,296	16,628	2,808	1,053	4	490	216	87	195
9 .....	632	79	2,454	3,156	11,219	10,520	2,472	838	.....	354	155	26	72
10 .....	576	4	2,356	2,840	14,603	8,942	2,991	1,206	.....	904	161	2	42
11 .....	231	5	991	1,292	6,430	4,048	1,170	288	1	474	126	3	20
12 .....	238	10	907	1,391	6,234	4,307	1,325	452	.....	151	39	6	51
13 .....	242	30	876	1,252	4,195	3,979	552	96	.....	27	9	20	39
14 .....	68	3	225	352	1,295	1,001	145	6	1	15	7	9	8
15 .....	26	.....	93	126	528	390	84	1	.....	35	18	.....	8
16 .....	34	.....	132	192	957	561	183	27	.....	9	2	.....	9
17 .....	202	15	759	1,068	4,405	3,216	828	75	.....	97	39	8	53
18 .....	415	39	1,620	2,123	8,632	7,234	1,810	462	.....	251	66	15	118
19 .....	162	18	547	831	2,909	2,791	457	76	.....	38	6	1	49
20 .....	24	.....	67	123	496	379	67	2	.....	13	7	1	4
21 .....	106	.....	418	553	2,992	1,540	609	58	.....	42	1	3	22
22 .....	50	.....	185	249	1,133	721	261	2	.....	7	.....	.....	.....
23 .....	16	1	39	72	278	201	62	3	.....	.....	.....	1	1
24 .....	11	.....	31	46	204	157	38	6	.....	.....	.....	.....	1
25 .....	23	.....	84	114	613	310	101	.....	1	6	.....	.....	5
Totals .....	5,232	623	20,634	27,504	105,576	101,378	20,490	5,844	7	3,446	1,032	315	1,052

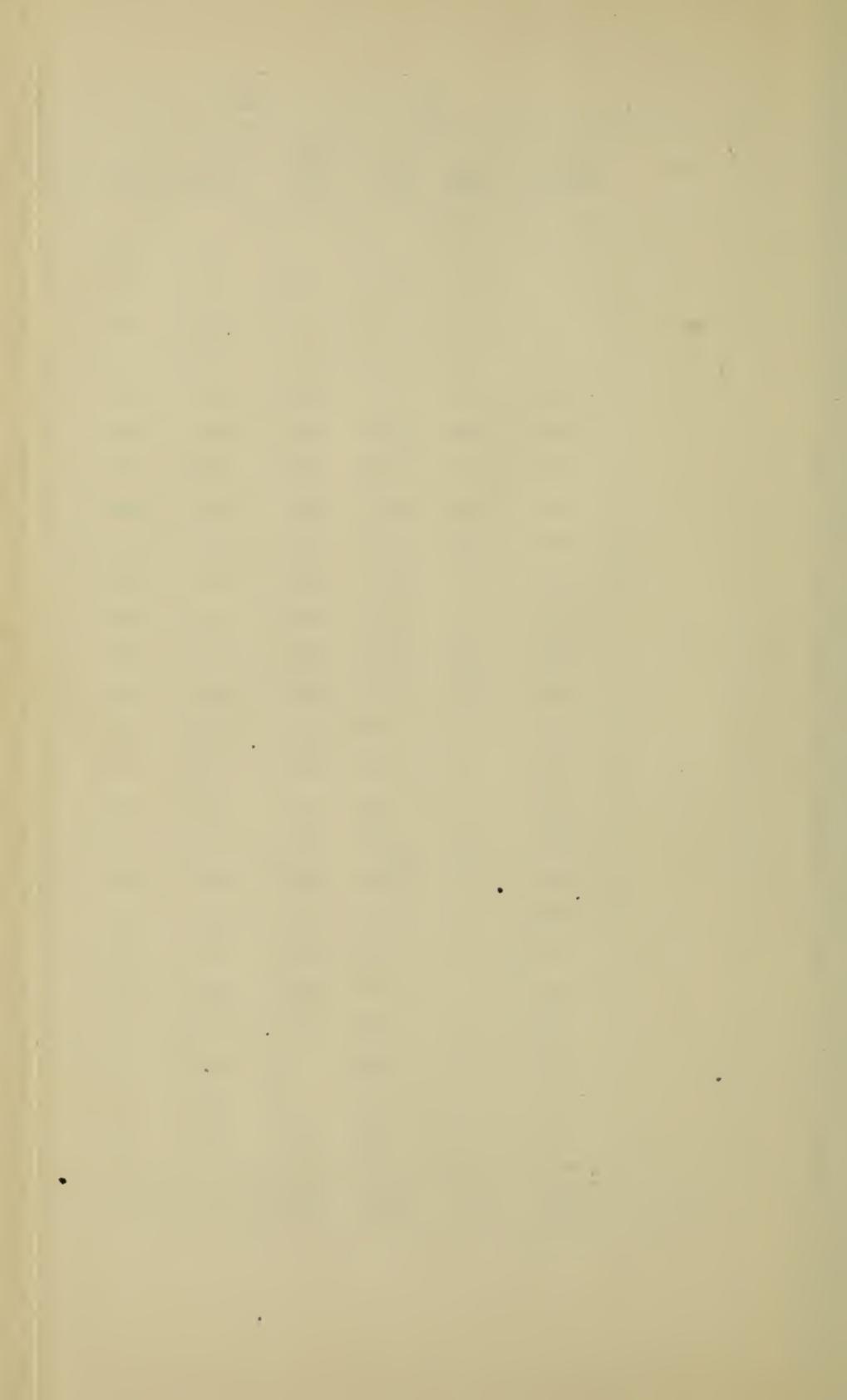


TABLE II.—Relating to Wards having most Tenement Houses.

	NUMBER OF					
	Population in 1900.	Tene- ment Houses.	Over- crowded.	Tene- ments.	Rooms.	Occupants.
City .....	560,892	5,232	623	27,504	105,576	101,378
Ward 6.....	30,546	925	189	5,431	16,505	26,259
" 8.....	28,817	729	218	3,720	13,296	16,628
" 9.....	24,583	632	79	3,156	11,219	10,520
" 10.....	22,142	576	4	2,840	14,603	8,942
" 18.....	22,401	415	39	2,123	8,632	7,234
Total, five wards .....	128,489	3,277	529	17,270	64,255	69,583
Per cent. of five wards to city....	22.9	62.6	84.9	62.8	60.9	68.6

Inspection of the foregoing table shows that the major part of the tenement house population is in five wards, viz., 6, 8, 9, 10 and 18, which contain 85 per cent. of the overcrowded houses. In Ward 6 there were 28.3 occupants per tenement house, 4.8 per tenement, and 1.8 per room, against 19.3 occupants per house, 3.7 per tenement, and 0.96 per room for the city as a whole. In Ward 8 there were 22.8 occupants per tenement house, 4.5 per tenement, and 1.3 per room. In Ward 18 there were 17.4 occupants per house, 3.4 per tenement and 0.84 per room.

TABLE III.—Relating to Wards having most Tenement Houses.

	Rooms.	Dark Rooms.	BASEMENT ROOMS.		Houses with Defec- tive Drain- age.
			Num- ber.	No. Oc- cupied.	
City.....	105,576	5,844	3,446	1,032	1,052
Ward 6.....	16,505	927	330	97	244
" 8.....	13,296	1,053	490	216	195
" 9.....	11,219	838	354	155	72
" 10.....	14,603	1,206	904	161	42
" 18.....	8,632	462	251	66	118
Total, five wards .....	64,255	4,486	2,329	695	671
Per cent. of five wards to the city.....	60.9	76.9	67.6	67.3	63.8

= 5.6 %  
= 7.9 %  
= 8.3 %

TABLE IV.—Showing Proportion of Tenement Houses with Defective Drainage and Dark Halls and Occupants per Room.

WARD.	PERCENTAGE OF TENEMENT HOUSES WITH		OCCUPANTS PER ROOM.
	Defective Drainage.	Dark Halls.	
1 .....	21	—	0.95
2 .....	24	7.4	1.10
3 .....	17	7.5	0.84
4 .....	50 ✓	2.8	0.85
5 .....	42	6.7	0.97
6 .....	26 ✓	9.1	1.59
7 .....	17	12.0	0.95
8 .....	27 ✓	12.0 ✓	1.25
9 .....	11	4.1	0.94
10 .....	7	0.4	0.61
11 .....	9	1.3	0.63
12 .....	17	2.6	0.69
13 .....	16	8.3	0.95
14 .....	12	13.2 ✓	0.77
15 .....	31	—	0.74
16 .....	26	—	0.59
17 .....	26	4.0	0.73
18 .....	28	3.6	0.84
19 .....	30	0.6	0.96
20 .....	17	4.2	0.76
21 .....	21	2.8	0.52
22 .....	—	—	0.64
23 .....	6	6.2	0.72
24 .....	9	—	0.77
25 .....	22	—	0.51
Total.....	20	6.2	0.96

APPENDIX B. TABLE I.—Table of Fires in Dwelling Houses, 1902 (Exclusive of Tenement Houses).

WARDS.	Number of Fires.	BUILDINGS INVOLVED.		PLACE OF ORIGIN.						KIND OF BUILDING.		CAUSE.						INSURANCE.			LOSS.		WARDS.			
		Dwellings.	Dwellings with Stores.	Cellar.	Basement.	Dwellings.	First Floor.	Second or Third Floor.	Above Third Floor.	Brick.	Frame.	Matches.	Lamps, Gas, Candles.	Oil or Gas Stove.	Overtaking.	Defective Chimney.	Sparks and Hot Ashes.	Incendiary.	Unknown.	Other Causes.	On Buildings.	On Contents.	On Buildings.	On Contents.		
1.....	25	23	8	.....	2	6	3	13	1	2	23	3	2	2	2	1	4	1	6	4	\$93,099 00	\$20,800 00	\$12,703 54	\$4,440 77	.....1	
2.....	30	20	10	.....	3	5	5	15	2	5	25	5	5	2	2	3	3	.....	9	1	72,100 00	16,400 00	4,526 51	8,370 98	.....2	
3.....	10	9	1	.....	1	3	.....	5	1	.....	10	1	3	.....	.....	1	1	.....	3	1	22,000 00	1,800 00	341 00	109 00	.....3	
4.....	12	15	2	.....	1	4	1	4	2	1	11	2	2	.....	.....	1	1	.....	6	1	24,900 00	2,650 00	2,553 50	1,063 38	.....4	
5.....	5	5	.....	.....	2	.....	2	1	1	4	.....	.....	.....	1	1	1	1	.....	2	.....	9,200 00	800 00	227 50	100 00	.....5	
6.....	27	17	11	1	.....	4	6	11	5	23	4	3	6	2	.....	1	1	1	1	11	2	190,300 00	48,800 00	48,800 00	4,508 21	.....6
7.....	31	18	13	.....	4	4	3	17	3	26	5	10	7	4	1	.....	.....	5	4	.....	510,750 00	131,200 00	1,862 97	3,067 00	.....7	
8.....	39	21	19	2	3	5	10	16	3	32	7	11	7	.....	1	2	.....	8	10	.....	247,940 00	38,200 00	3,730 50	4,487 85	.....8	
9.....	33	20	13	2	6	7	4	13	1	31	2	6	7	2	1	1	1	1	10	4	191,800 00	19,100 00	4,851 50	1,790 33	.....9	
10.....	42	35	8	1	6	5	2	20	8	41	1	19	6	2	1	1	2	.....	7	4	453,300 00	72,300 00	11,700 91	10,515 63	.....10	
11.....	28	23	5	1	5	7	1	10	4	25	3	6	4	3	2	1	1	.....	1	7	4	351,400 00	31,300 00	18,837 72	10,397 07	.....11
12.....	31	27	4	1	3	3	1	21	2	27	4	7	8	4	1	.....	2	.....	7	2	189,333 00	29,300 00	2,853 75	2,157 24	.....12	
13.....	24	17	7	.....	2	6	4	11	1	3	21	8	4	3	2	.....	3	.....	3	1	55,650 00	9,000 00	1,590 90	2,172 03	.....13	
14.....	18	15	4	.....	3	6	3	6	.....	3	15	1	4	.....	1	1	1	1	.....	7	3	71,250 00	10,800 00	3,793 48	1,747 98	.....14
15.....	16	14	4	1	.....	6	1	7	1	1	15	4	.....	1	.....	1	3	2	4	1	42,800 00	5,000 00	1,708 42	1,048 46	.....15	
16.....	21	16	5	1	.....	6	3	9	2	1	20	5	2	2	1	1	5	.....	3	2	69,450 00	5,800 00	1,333 00	452 93	.....16	
17.....	31	25	6	3	.....	11	3	11	3	9	22	8	2	2	6	1	1	1	1	4	129,500 00	11,100 00	5,424 42	5,583 75	.....17	
18.....	26	17	9	2	3	5	6	9	1	12	14	5	4	1	2	.....	1	2	9	2	86,550 00	17,600 00	3,870 74	3,232 25	.....18	
19.....	28	25	3	3	1	10	1	13	.....	3	25	7	8	4	2	.....	2	.....	2	3	112,000 00	18,600 00	7,451 42	6,532 70	.....19	
20.....	49	46	3	5	2	21	1	14	3	1	48	8	10	3	4	.....	7	.....	8	9	173,800 00	49,800 00	7,859 82	6,043 18	.....20	
21.....	21	18	3	2	4	6	3	5	1	2	19	1	2	4	1	1	.....	.....	8	4	62,300 00	18,550 00	4,308 00	3,162 21	.....21	
22.....	30	28	2	.....	2	10	1	15	2	3	27	8	7	2	.....	1	1	.....	7	4	71,100 00	15,100 00	5,436 03	3,597 27	.....22	
23.....	24	22	2	1	1	11	1	9	1	1	23	6	6	1	1	2	.....	4	3	56,000 00	12,400 00	2,388 95	1,322 67	.....23		
24.....	35	32	3	.....	.....	14	3	12	3	.....	35	4	5	3	2	.....	4	4	9	4	99,550 00	17,909 00	7,407 83	3,144 75	.....24	
25.....	15	15	.....	1	.....	5	.....	9	.....	15	4	4	.....	3	.....	4	.....	4	.....	42,300 00	7,900 00	1,080 80	983 50	.....25		
Totals..	651	523	145	27	52	172	66	277	51	253	398	142	115	47	34	22	46	12	154	79	\$3,428,372 00	\$612,209 00	\$132,150 21	\$88,981 14		

Place of origin unknown—3 fires in Ward 20, 3 in Ward 24.



APPENDIX B. TABLE II.—Table of Tenement-House Fires, 1902.

WARD.	Number of Fires.	BUILDINGS INVOLVED.		PLACE OF ORIGIN.						KIND OF BUILDING.		CAUSE.								INSURANCE.		Loss.		WARD.			
		Dwellings.	Dwellings with Stores.	Cellar.	Basement.	Dwellings.	First Floor.	Dwellings.	Second or Third Floor.	Above Third Floor.	Brick.	Frame.	Matches.	Lamps, Gas Jets, Candles.	Oil or Gas Stoves.	Overheating.	Defective Chimney.	Sparks or Hot Ashes.	Thawing Pipes.	Incendiary.	Unknown.	On Buildings.	On Contents.	On Buildings.	On Contents.		
2.....	5	4	1	.....	.....	1	4	.....	3	2	.....	1	3	.....	1	.....	.....	.....	.....	.....	\$24,500 00	\$1,200 00	\$348 00	\$283 97	..... 2		
6.....	29	9	21	1	2	1	5	11	9	2	10	8	.....	3	.....	3	1	.....	3	1	.....	4	191,000 00	7,700 00	4,862 75	2,264 42	..... 6
7.....	13	7	6	.....	5	2	1	1	4	2	3	1	2	.....	1	.....	1	.....	3	.....	67,000 00	3,350 00	1,814 00	446 50	..... 7		
8.....	40	21	19	3	2	4	6	17	8	40	.....	14	10	2	1	.....	2	.....	2	.....	9	246,550 00	32,700 00	3,628 00	4,799 39	..... 8	
9.....	28	24	5	.....	4	4	2	16	2	25	3	7	6	1	.....	2	2	1	.....	9	167,050 00	10,400 00	1,898 10	1,608 95	..... 9		
10.....	14	12	3	1	3	1	2	6	1	14	.....	6	2	.....	3	.....	.....	.....	1	2	224,500 00	16,000 00	17,312 80	5,137 00	..... 10		
11.....	6	5	1	.....	.....	1	.....	4	1	5	1	2	2	.....	1	.....	.....	.....	1	.....	135,000 00	19,860 00	3,885 00	3,762 00	..... 11		
12.....	9	9	1	.....	3	5	.....	1	.....	8	1	1	1	.....	2	1	1	.....	3	.....	81,000 00	9,100 00	3,042 80	1,853 31	..... 12		
13.....	3	2	1	.....	.....	1	1	1	.....	1	2	.....	1	.....	.....	.....	.....	2	.....	8,000 00	600 00	443 00	85 00	..... 13			
14.....	1	1	.....	.....	.....	1	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	100 00	25 00	..... 14			
16.....	1	2	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	19,000 00	3,500 00	1,470 00	1,125 00	..... 16			
17.....	1	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	3,000 00	.....	40 00	.....	..... 17			
18.....	8	3	6	1	1	1	2	2	5	3	2	.....	2	.....	2	1	.....	1	.....	116,500 00	6,900 00	4,122 72	3,091 00	..... 18			
19.....	1	1	.....	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	10,000 00	.....	38 56	200 00	..... 19				
21.....	2	1	1	.....	1	1	.....	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....	75,000 00	2,700 00	478 00	1,119 94	..... 21				
25.....	1	.....	1	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	10,000 00	3,500 00	1,262 00	50 00	.....	..... 25							
Totals..	162	102	66	7	20	22	20	65	28	144	18	46	34	8	11	8	10	6	3	36	\$1,378,100 00	\$117,510 00	\$44,745 73	\$25,851 48			



## APPENDIX B.

This Appendix presents two principal tables relating to the number, cause, and place of origin, with the amount of loss resulting from fires in Boston, 1902 (*a*) in dwelling houses exclusive of tenement houses, and (*b*) in tenement houses covered by the reports of the Health Inspectors described in Appendix A. Table I. gives the facts in detail by Wards for fires in dwelling houses, and Table II. gives similar details for fires in tenement houses. Table III. affords a comparative summary view for the city of the facts set forth by Wards in Tables I. and II.

Unfortunately adequate data to show the relation between tenement houses and other classes of dwellings are not to be had, but Table IV., which shows by Wards the number of "Ordinary Dwellings" returned by the Board of Assessors in 1902, the number of tenement houses included in Appendix A, and the number of fires (with loss on buildings) in dwelling and tenement houses respectively in 1902, affords a rough sort of comparison of the relation of the several wards to each in respect to the facts set forth in previous tables. It does not appear that fires in tenement houses are disproportionately frequent or costly, as compared with those which occur in ordinary dwellings. Of 162 fires in tenement houses (see Table II.), only 18 or 11.1 per cent. originated in frame buildings, while of 651 fires in dwelling houses (see Table I.) 398, or 61.1 percent. originated in frame buildings. The principal causes of fires in the two classes of houses were much the same. The following statement shows the percentage to total fires, in each class, of certain principal causes :

	Matches.	Lamp, Gas Jets, Etc.	Gas or Oil Stoves.	Defective Chimney.	Sparks or Hot Ashes.	Incen- diary.
Dwelling houses	21.8	17.7	7.2	4.6	7.1	1.8
Tenement houses.	28.4	21.1	6.2	4.9	6.2	1.2

APPENDIX B. TABLE III.—Affording Comparison of Fires in Dwellings and Tenement Houses in 1902.

1. FIRES IN 1902 IN	Number.	INVOLVING		PLACE OF ORIGIN.		First Floor.	Second or Third Floor.	Above Third Floor.	KIND OF BUILDING.	
		Dwellings.	Dwelling and Store.	Cellar.	Basem't.				Brick.	Frame.
Dwelling Houses.....	651	623	145	27	52	238	277	51	398	142
Tenement Houses Included in Health Department Inspection Reports.....	162	102	66	7	20	42	65	28	144	18
<b>2. CAUSE OF FIRES IN 1902 IN:</b>										
Dwelling Houses.....	142	115	47	34	22	46	12	233	651	
Tenement Houses.....	46	34	8	11	8	10	3	42	162	
<b>LOSS ON</b>										
<b>3. INSURANCE ON</b>		Buildings.	Contents.	Total.	Buildings.	Contents.	Total.			
Dwelling Houses.....	\$3,428,372	\$612,209	\$4,040,581	\$132,150	\$88,981	\$221,131				
Tenement Houses.....	1,378,100	117,510	1,495,610	44,746	25,851	70,597				

**TABLE IV.— Showing Number of Fires and Fire-Loss by Wards in 1902—Dwelling and Tenement Houses.**

WARDS	NUMBER IN 1902 OF		FIRES IN 1902 IN		LOSS ON BUILDINGS.	
	Dwelling Houses, Given by Assessors.	Tenement Houses Inspected by Health Department.	Dwelling Houses.	Tenement Houses.	Dwelling Houses.	Tenement Houses.
1.....	3,119	14	25	.....	\$12,704	
2.....	2,277	68	30	5	4,527	\$348
3.....	1,650	53	10	.....	341	
4.....	1,847	36	12	.....	2,554	
5.....	1,264	60	5	.....	228	4,863
6.....	1,549	925	27	29	48,800	4,863
7.....	1,253	291	31	13	1,863	1,814
8.....	1,890	729	39	40	3,731	3,628
9.....	1,837	632	33	28	4,852	1,898
10.....	2,196	576	42	14	11,701	17,313
11.....	2,945	231	28	6	18,838	3,885
12.....	2,254	238	31	9	2,854	3,043
13.....	2,257	248	24	3	1,591	443
14.....	2,571	68	18	1	3,793	100
15.....	2,390	26	16	.....	1,708	
16.....	2,442	34	21	1	1,333	1,470
17.....	2,745	202	31	1	5,424	40
18.....	2,326	415	26	8	3,871	4,123
19.....	2,789	162	28	1	7,451	39
20.....	5,199	24	49	.....	7,860	
21.....	3,285	106	21	2	4,308	478
22.....	3,412	50	30	.....	5,436	
23.....	3,876	16	24	.....	2,389	
24.....	4,516	11	35	.....	7,408	
25.....	3,673	23	15	1	1,081	1,262
	65,562	5,232	651	162	\$132,150	\$44,746

## APPENDIX C.

Appendix C relates to deaths from tuberculous diseases and from Pneumonia in certain wards having a large tenement-house population. The summary tables presented are based on detailed statements, showing the deaths by streets, in Wards 6, 7, 8, 9, 13, and 18 from the two classes of diseases mentioned. These detailed statements were kindly furnished by Mr. Edward W. McGlenen, the City Registrar. Though of much interest they are too voluminous for publication in this report.

Table I. is a summary table showing by wards, for six wards which contain the greater part of the tenement-house population, the deaths from tuberculous diseases and from Pneumonia: (1) in the ward; (2) in tenement houses; and (3) the percentage of deaths from the specified causes to total deaths from the same causes.

**TABLE I.—Total Deaths and Deaths in Tenement Houses, from Phthisis and Tuberculosis and from Pneumonia, Wards 6, 7, 8, 9, 13, and 18, Boston, 1902.**

WARD	TOTAL DEATHS FROM SPECIFIED DISEASES.		DEATHS IN *TENEMENT HOUSES FROM SPECIFIED DISEASES.		PERCENTAGE DEATHS IN TENEMENT HOUSES TO TOTAL DEATHS.		DENSITY. Persons to an Acre.
	Phthisis and Tu-berculo-sis.	Pneu-monia.	Phthisis and Tu-berculo-sis.	Pneu-monia.	Phthisis and Tu-berculo-sis.	Pneu-monia.	
6 .....	58	118	30	86	51.7	72.9	109.5
7 .....	63	54	18	21	28.6	38.9	39.4
8 .....	25	40	13	26	52.0	65.0	182.2
9 .....	70	59	24	25	34.3	42.4	138.6
13 .....	78	73	18	14	23.1	19.2	39.6
18 .....	59	56	16	19	27.1	33.9	108.8
Total ..	353	400	119	191	33.7	47.75	81.0

\* Only tenement houses which were inspected by the Health Department between March 20, 1901, and October 23, 1903, are included.

**TABLE II.—Death-rates from Tuberculous Diseases and Pneumonia in Wards 6, 7, 8, 9, 13, and 18, in 1902.**

DEATH-RATES PER 1,000 OF POPULATION IN WARD	From Tubercu- lous Diseases.	From Pneumonia.
6.....	1.81	3.68
7.....	4.05	3.48
8.....	0.83	1.32
9.....	2.71	2.29
13.....	3.26	3.05
18.....	2.51	2.38
Six wards.....	2.34	2.65
The city.....	2.11	2.20

While the death-rate from tuberculous diseases and pneumonia in the six wards taken together is somewhat above the corresponding rates for the city as a whole, the fluctuations in the several wards are so great as to indicate that the congestion of tenement-house population is not the determining factor in the production of the death-rates specified. At present we know too little about the local death-rates and their causes in Boston to warrant sweeping or positive statements as to the best means of improvement.

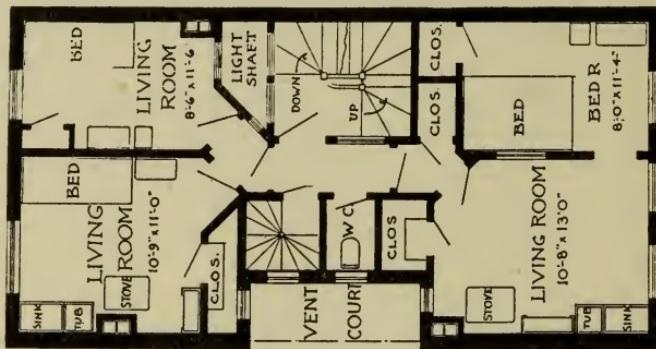
EDWARD M. HARTWELL.

## APPENDIX D.

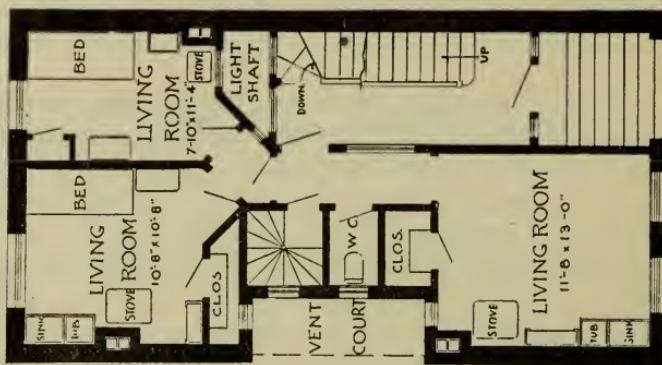
### PLANS OF TENEMENT HOUSES, DRAWN BY W. D. AUSTIN.

#### Plan No. 1.

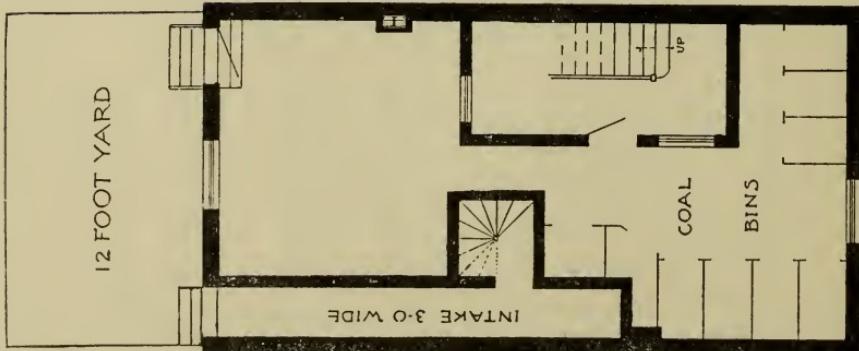
Typical plan of a tenement house: Lot 20 x 52 feet; building 20 x 40 feet; 12-foot yard; four stories high; 15 rooms in all. Adapted for families of one or more persons; 9 apartments of one room each and 3 apartments of two rooms each; or 7 apartments of two rooms each and 1 of one room; or 3 apartments of four rooms each and 1 apartment of two rooms and 1 apartment of one room.



Second, Third, and Fourth Floor Plans.



First Floor Plan.



Basement Plan.

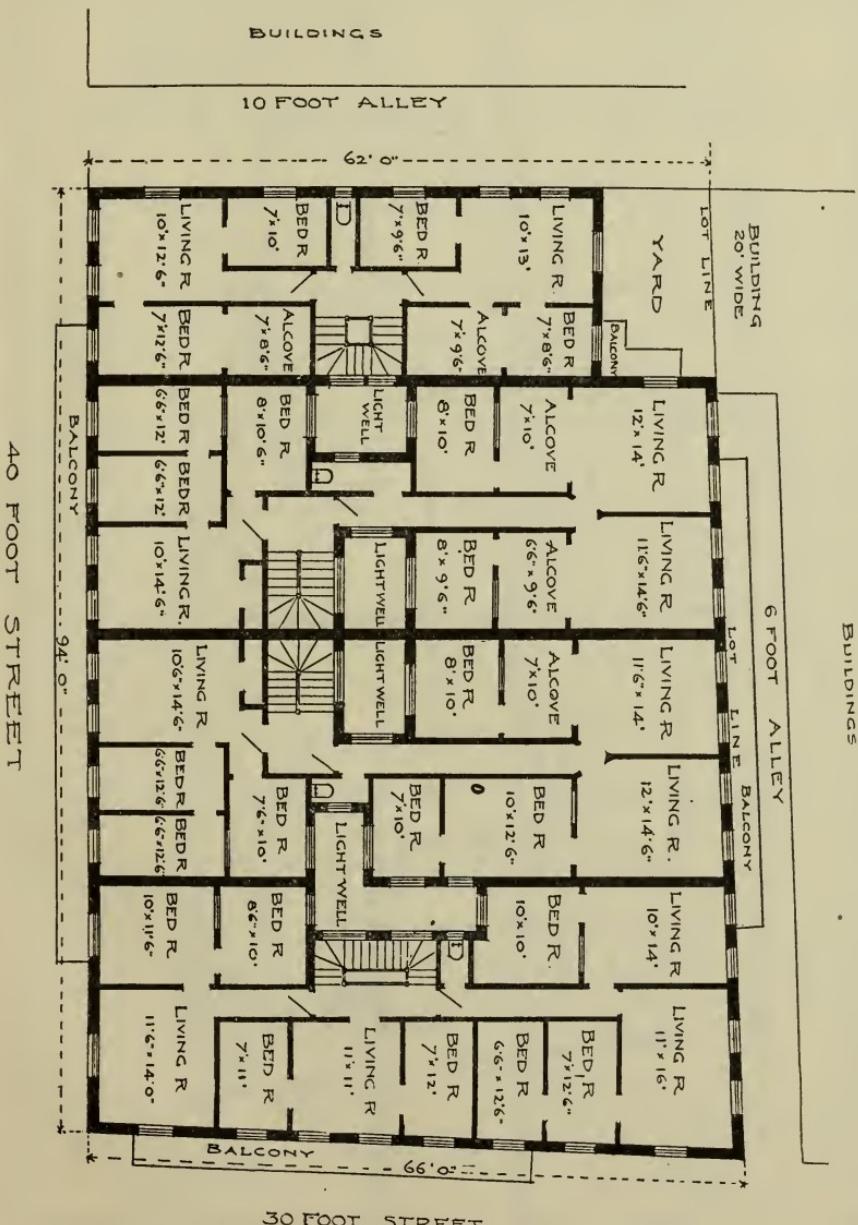
Public stairway enclosed in fireproof partitions with fixed metal frames and sashes and wired glass. Stairway shut off from public hall on each floor by a fireproof self-closing door, thus preventing spread of smoke into public hall. Each apartment has cross draught either into the vent court or into the light shaft. Vent court is open to the sky and connected at the bottom with yard by a fireproof intake 3 feet wide, 7 feet high. Light shaft starts at first floor level and is covered with a ventilating skylight. Interior emergency stairs, shut off by fireproof partitions with a fireproof door into public hall, on each floor; doors can only be opened from hall side, stairs emerge into vent court at bottom.

### **Plan No. 2.**

A plan of an actual city lot in a tenement district. Possible corner tenement house — in accordance with present laws, fireproof.

Five stories, 5,564 square feet covered, cost \$67,000, plus land \$27,000, makes total cost \$94,000; 19,280 square feet of rentable area at 50 cents average per annum, gross rental of \$9,640 - 10½ per cent. investment.

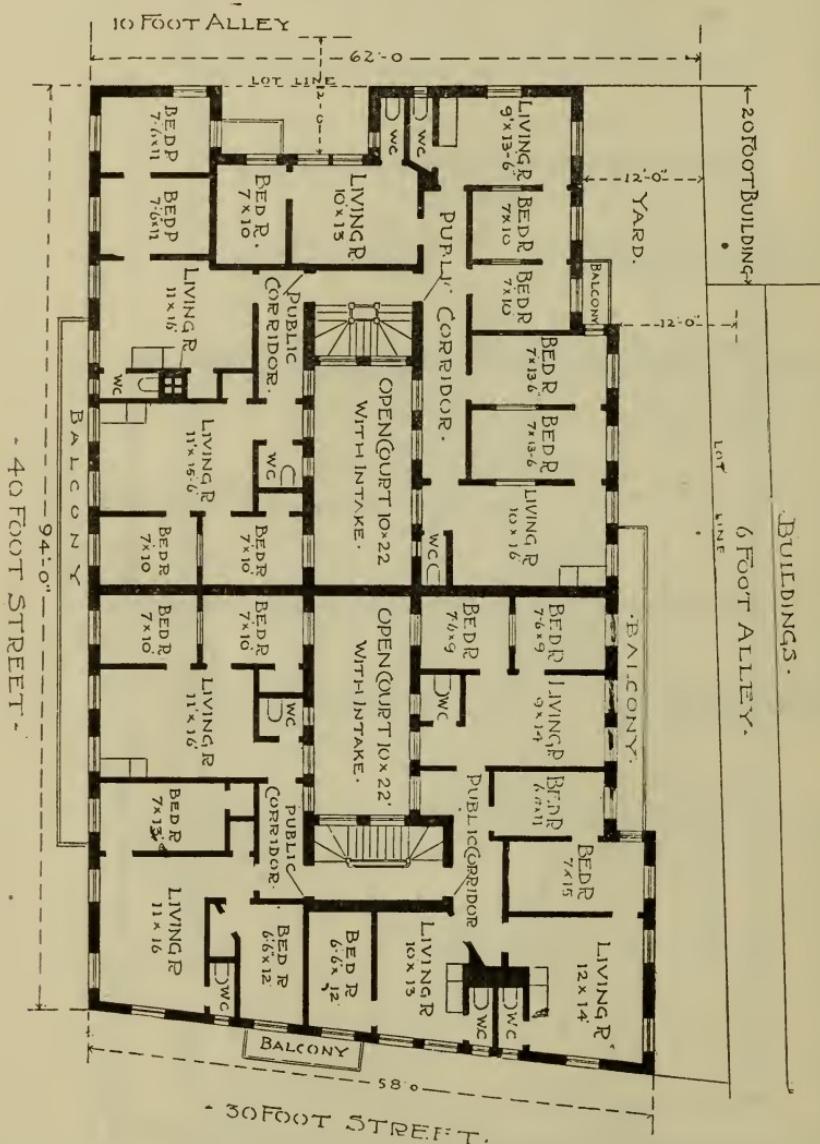
Four stories: Cost of land and building, fireproof construction, \$80,414; 14,580 square feet of rentable area at 51 cents average per annum; gross rental of \$7,435—9½ per cent.



**Plan No. 3.**

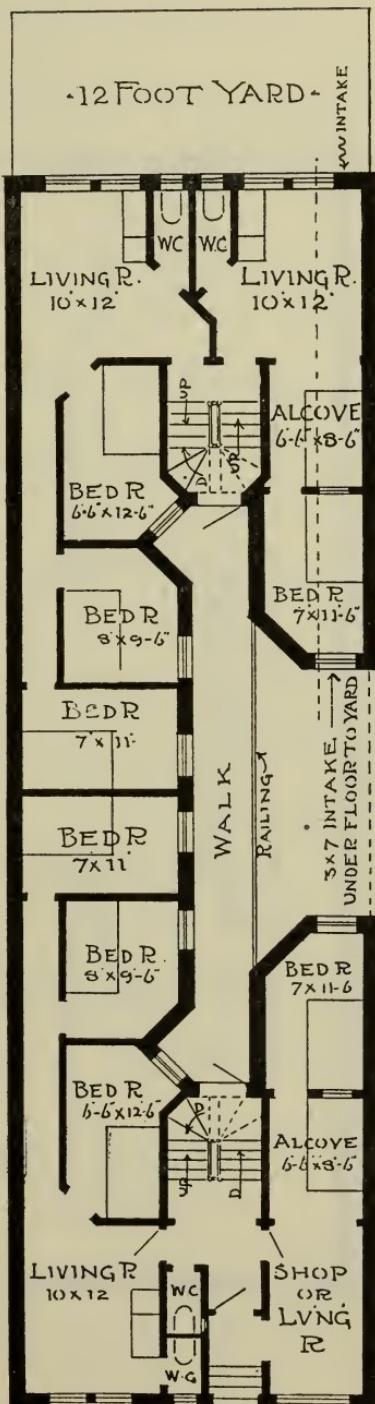
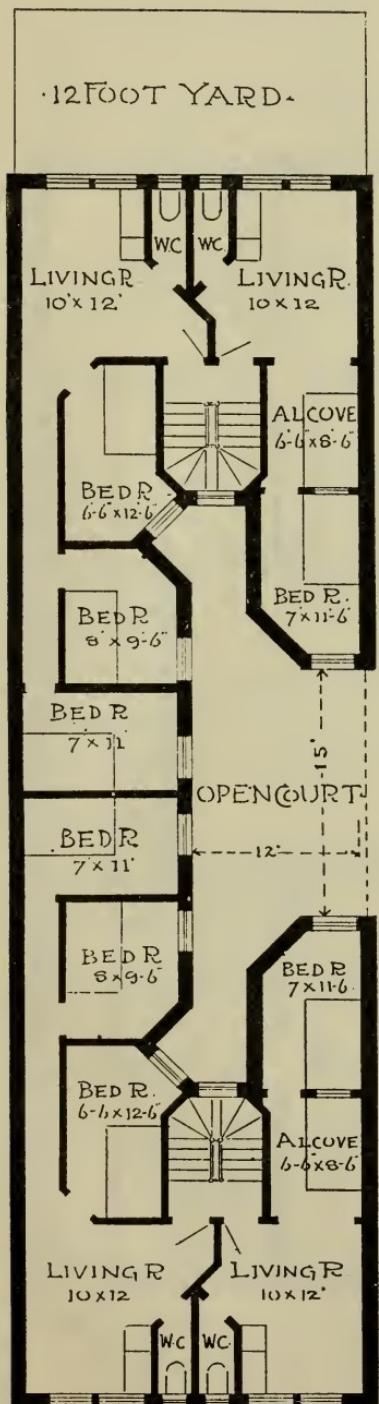
Same lot as in Plan No. 2. Corner tenement, in accordance with proposed new laws, second-class construction. Four stories, 4,503 square feet covered, cost \$36,024, plus land \$27,000; total cost, \$63,024; 12,776 square feet of rentable area at 52 cents average per annum; gross rental of \$6,643 — 10½ per cent.

**BUILDINGS.**



**Plan No. 4.**

Typical plan for a 25 x 100 feet lot; 1,768 square feet of area covered; 5,640 square feet of rentable area; four stories high.

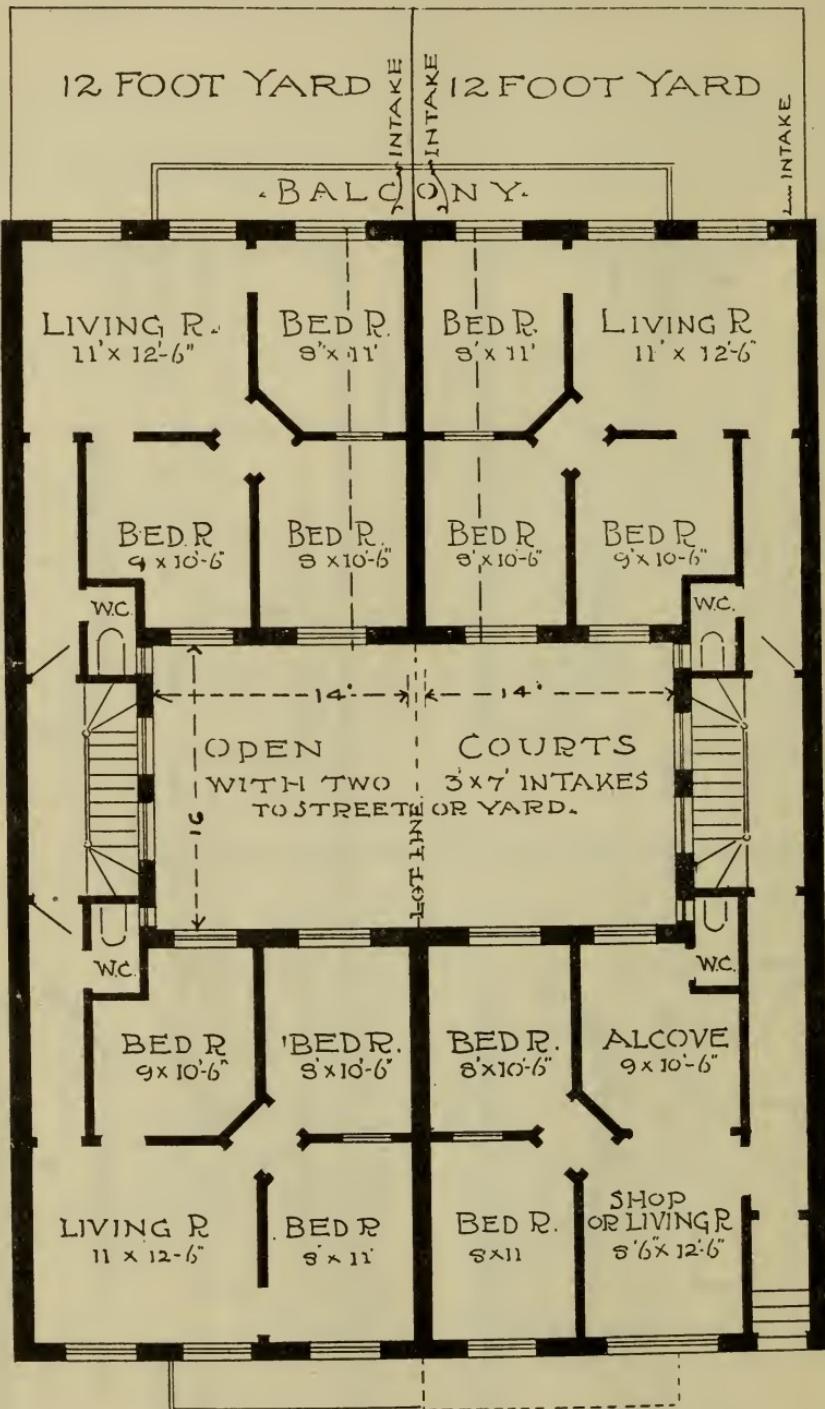


• 2<sup>ND</sup> 3<sup>RD</sup> AND 4<sup>TH</sup> FLOORS •

• 1<sup>ST</sup> FLOOR •

Plan No. 5.

Plan for possible tenement on Upton street; 22 x 75 feet lot; 1,272 square feet of area covered; 3,206 square feet of rentable area; four stories high.

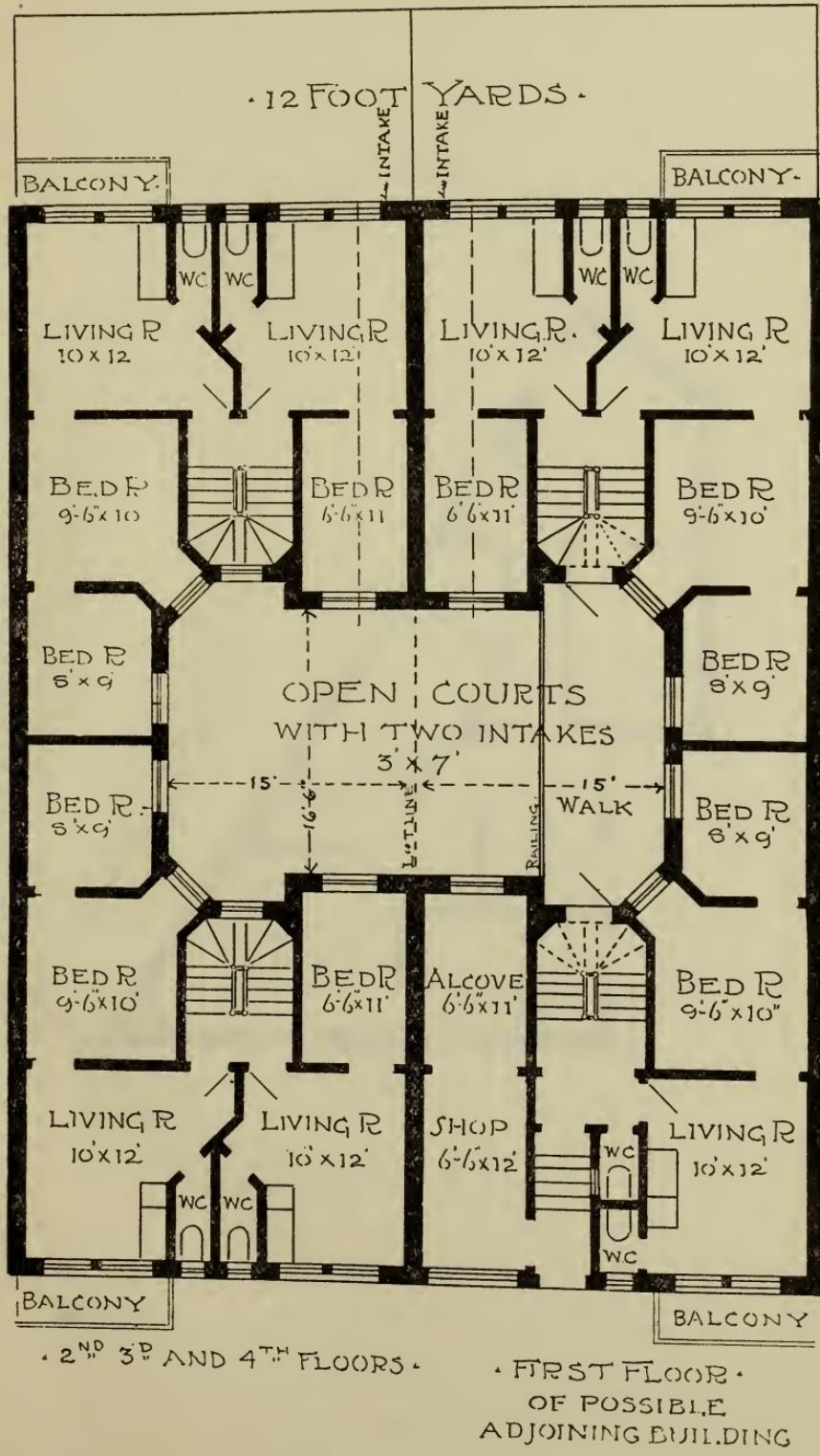


2<sup>ND</sup> 3<sup>RD</sup> AND 4<sup>TH</sup> FLOORS.

FIRST FLOOR.  
OF POSSIBLE  
ADJOINING HOUSE

**Plan No. 6.**

Plan for a possible tenement on Waltham street; 25 x 80 feet lot; 1,440 square feet of area covered; 4,136 square feet of rentable area; four stories high.



**Plan No. 7.**

Plan of an actual acute angle corner lot; four stories high.

